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# **EXPLORING PATHS TO YOUTH SUICIDE AND SUDDEN VIOLENT DEATH**

**A multimethod case-control investigation**

Annelie Werbart Törnblom



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# EXPLORING PATHS TO YOUTH SUICIDE AND SUDDEN VIOLENT DEATH

## A multimethod case-control investigation

THESIS FOR DOCTORAL DEGREE (Ph.D.)

By

**Annelie Werbart Törnblom**

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Andreas Vesalius, Berzeliuslab, Berzelius väg 3, Solna, on Friday,  
February 21, 2020, 9:00 am

*Principal Supervisor:*

**Professor Emeritus Per-Anders Rydelius**  
Karolinska Institutet  
Department of Women's and Children's  
Health

*Co-supervisor:*

**Professor Bo Runeson**  
Karolinska Institutet  
Department of Clinical Neuroscience

*Opponent:*

**Professor Siv Kvernmo**  
UiT The Arctic University of Norway  
Department of Clinical Medicine

*Examination Board:*

**Professor Emeritus Per Gustafsson**  
Linköping University  
Department of Clinical and Experimental  
Medicine  
Center for Social and Affective Neuroscience

**Associate Professor Marie Wadsby**  
Linköping University  
Department of Clinical and Experimental  
Medicine

**Professor Emeritus Lars Jacobsson**  
Umeå University  
Department of Clinical Sciences  
Psychiatry



## ABSTRACT

Suicide and other forms of sudden violent death are the most common causes of death among young people worldwide. Both suicide and other forms of sudden violent death are more frequent among males than females. Risk factors, suicidal behavior, and help-seeking patterns differ between young women and men.

**Aims:** To explore the hypothesis that there are similar backgrounds to both death by suicide and to other forms of sudden violent death among youths. The aims of the quantitative studies were: (1) to compare risk factors for youth suicide and for other forms of sudden violent death with matched living controls; (2) to examine associations between life events and coping strategies common in these three groups of young people. The aims of the qualitative studies were: (3) to build a generic conceptual model of the processes underlying youth suicide, grounded in the parents' perspective; (4) to compare boys' and girls' suicidal processes.

**Material/Methods:** In the prospective longitudinal case-control design, 63 consecutive cases of youth suicide and 62 cases of other forms of sudden violent death were compared with 104 matched control cases. Data were collected in 196 psychological autopsy interviews with parents and other relatives and 240 equivalent interviews in the control group. The interviews included DSM-IV-R criteria for selected psychiatric diagnoses and measures of adverse childhood experiences, stressful life events, and ways of coping. Statistical analyses were conducted using logistic regression, factor analysis, mediation analysis, and moderator analysis. Grounded theory methodology was applied in the qualitative studies in order to give voice to and make sense of the parent's experiences.

**Results:** (1) The number of recent stressful life events was the only common risk factor for suicide and other forms of sudden violent death. Specific risk factors for suicide were any form of addiction and being an inpatient in adult psychiatric care, whereas for other forms of sudden violent death, risk factors were poorer elementary school results, lower educational level, and abuse of psychoactive drugs. (2) Distinctive of the suicide and the sudden violent death group was significantly less Planful Problem-Solving, and more Escape-Avoidance and Confrontive Coping than among the controls. Between-group differences were partly mediated by differences in negative life events, early and late in life. (3) Family alliances, coalitions and secrets were intertwined with the young person concealing problems and "hiding behind a mask," whereas the professionals did not understand the emergency. Several interacting factors formed negative feedback loops. Finding no way out, the young persons looked for an "emergency exit." Signs and preparations could be observed at different times but were recognized

only in retrospect. Typically, the young persons and their parents asked for professional help but did not receive the help they needed. (4) Different forms of shame were hidden behind gender-specific masks. Both the young men and women were struggling with issues of their gender identity. Five interwoven paths to suicide were found: being hunted and haunted, being addicted, being depressed, being psychotic, or—for the girls—having an eating disorder.

**Conclusions:** The suicide group seems to have been more vulnerable and exposed to different kinds of stressors, whereas the sudden violent death group seems to have been more prone to acting out and risk-taking. Improved recognition and understanding of the interplay between life events, both in the far past and present, and coping styles, may facilitate the identification of young people at risk of suicide and other forms of violent death. Both groups must be the subject of prevention and intervention programs. Future preventive programs need to address barriers to communication among all parties involved: the young people, parents, and community support agencies. Understanding and making use of the parents' tacit knowledge can contribute to better prevention and treatment.

**Keywords:** Suicide, sudden violent death, case-control study, psychological autopsy, multiple logistic regression, grounded theory, risk factors, youth, adverse childhood experiences, stressful life events, coping strategies, barriers to help, prevention.

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- III. Werbart Törnblom, A., Werbart, A., & Rydelius, P.-A. (2013). Shame behind the masks: The parents' perspective on their sons' suicide. *Archives of Suicide Research*, 17(3), 242–261. doi:10.1080/13811118.2013.805644
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## LIST OF ABBREVIATIONS

ACE	Adverse Childhood Experiences
AD	Autistic Disorder according to DSM-IV-TR
ADHD	Attention Deficit Hyperactivity Disorder according to DSM-IV-TR
AIC	Akaike Information Criterion (an estimator of out-of-sample prediction error that compares the quality of a set of statistical models to each other)
ALCES	Adolescent Life Change Event Scale
ANOVA	Analysis of variance
APD	Antisocial Personality Disorder according to DSM-IV-TR
ASD	Autism Spectrum Disorder according to DSM-5
BPD	Borderline Personality Disorder according to DSM-IV-TR
CAP	Child and Adolescent Psychiatry
CAQDAS	Computer-Assisted Qualitative Data Analysis Software
CD	Conduct Disorder according to DSM-IV-TR
CI	Confidence interval
DSM	Diagnostic and Statistical Manual of Mental Disorders
GT	Grounded Theory
HSD	Tukey's honestly significant difference test
ICD	International Statistical Classification of Diseases and Related Health Problems
IES	Impact of Event Scale
LCU	Life Change Unit
LEI	Life Event Index
M	Mean
Md	Median
NA-SRRS	Non-Adult Social Readjustment Rating Scale
ODD	Oppositional Defiant Disorder according to DSM-IV-TR
OR	Odds ratio
PTSD	Posttraumatic stress disorder
SD	Standard deviation
SRI	Social Readjustment Index
SRRS	Social Readjustment Rating Scale
SVD	Other sudden violent death
WCQ	Ways of Coping Questionnaire
WHO	World Health Organization



# 1      **PREFACE**

To be able to conduct research into youth suicide and other forms of violent death I had to confront my own ideas about such phenomena. I realized that I felt happy and was fond of life and I thought that it was strange that we have such a phenomenon as suicide in our society and I wondered why we had not yet solved this problem. My own answers circled around the idea that maybe we had not asked the right persons who could possibly answer this question, and I first thought that it would be best answered by someone with experience of thinking about or attempting suicide. Then I realized that the knowledge about those who died by suicide must be vicarious and that we have to ask those who have known somebody who crossed the border between suicidal thoughts and acts.

I remember walking up the hill with the person I was going to interview about his son's suicide and he suddenly reflected and said "I don't know why I have decided to be interviewed by a total stranger about the most precious things in my life." I think I answered something like "I do not know why either," and I said it was courageous. In retrospect, I understand we both had one thing in common: we were curious to find an answer to "Why did this death happen?" Later on, I learned that if the forensic medicine department reported the cause of a death of a young person to be unclear the parents could come up with many possible scenarios of what could have preceded the death, and they could be struggling to put together pieces of information about their child they had obtained from different people in an effort to understand what had happened. Many parents wanted to show me photographs so that I would know who we were talking about. Telling their stories made me think of their child too. The more questions I asked, the clearer the picture of their child became.

The more we spoke, the more the child became a person with thoughts and feelings whom we both got to know better, since they so generously shared all their knowledge and memories with me. Sometimes I felt strongly for their child as their stories about the child's childhood, adolescence and young adulthood unfolded. Very often I felt for them as parents when they described struggling to make their child feel safe enough to confide in them and disclose what problems they had and what had happened. All parents had their own private theories trying to explain how this could have happened, containing everything from self-blame, genetic inheritance, bad luck, destiny, to blaming others. Still, I was convinced they all were telling the truth. All parents admitted they had heard their child saying something astonishing at some point during the year prior to the death, which they did not understand at that time, but which now took on new meaning.

It was very clear to me why some of them had not been able to comprehend the message. It could happen that they did not pass on this message to the other parent or the professionals since of course they could not interpret what they had just heard. The meaning of the words they had heard must have hit them so hard that it prevented them from grasping the meaning, even though unconsciously they understood the essence of the message. A parent could think that the boy was driving carelessly and thought that he was referring to his driving when saying “Mother, what would you do if I died?” The idea that he was trying to say that he actually had suicidal thoughts and perhaps even suicidal plans could first appear afterwards (Werbart Törnblom, Werbart, & Rydelius, 2013, p. 252). Reminding myself of my own adolescence, I could identify with those parents who thought that all teenagers talk about suicide. Looking from inside out I still wondered why they did not take these utterances seriously. A mother who lost her son in another violent death could report that the child had said “I can’t stand this any longer; mother, you must help me.” The parent could realize what the boy meant: he had experienced so much pain and sorrow that he could only think of wanting to be dead. I could understand that the boy did not really want to bother his mother but he knew she always cared, and he did not know his father since he was seldom there. The parents could have understood that their child had been trying drugs during his teens, later on as young adult coming home without any hopes and dreams. But I can still wonder what happened in-between. We are always depending on our own experiences, but we need to remind ourselves that we and other people may not necessarily interpret similar situations in the same way. We all jump to different conclusions based and dependent on what we already know, and what we are able to fantasize and imagine, and this shapes our expectations at any given time.

So I met a lot of parents who told me stories of their child’s personality and life, describing them from their point of view. I just tried to listen attentively and to reflect on whether what I had heard gave me a good enough picture of what both they themselves and their children had gone through. I am really grateful for the confidence they all placed in me, and I hope I have been clear enough giving voice to their experiences when I have been writing this thesis. I also hope that we will all benefit from the knowledge embedded in their narratives. As one mother said: “This is my way of trying to make the meaningless meaningful.”

## 2 INTRODUCTION

How can we understand that young people can kill themselves or expose themselves to risks resulting in sudden violent death? What can we learn from their parents' and relatives' attempts to understand the incomprehensible? Which risk factors are common and which are specific to death by suicide and other forms of sudden violent death? The list of possible questions is endless and only a limited selection can be approached within the frame of this investigation.

Let me start with a short historical retrospect on factors still relevant today. The theme of suicide appears several times in ancient Greek mythology and literature. Asomatou et al. (2016) identified 59 cases of suicide in Greek mythology, of which 37 concerned women and 22 concerned men. The motives behind female suicides comprised rejection by a desired other and unfulfilled love, the death of a relative, and humiliation and shame as a consequence of incest or rape. The motives behind male suicides included rejection by someone of the same or opposite sex, bereavement and loss of a child, uncontrollable fury (as a consequence of dishonor, physical or emotional trauma, or indignity), madness (regarded as a divine punishment of mortals who forget or refuse to honor the gods), and self-sacrifice in order to serve a military, patriotic or religious duty. As a paradigmatic case, the authors present the case of Ajax, involving the themes of humiliation and shame, immense fury, hubris toward the gods, and punishment with madness. Finally, Ajax felt that suicide was the only way to escape the shame for what he had done and what others had done to him, and to save his identity as a hero ("It is shameful for a man to live when disasters are only exchanged for other disasters" [p. 72]).

Perhaps the most famous suicide in history was that of Cleopatra. After the Roman victory over the army of Marcus Antonius and Cleopatra in Egypt in 30 BC, Marcus Antonius committed suicide by stabbing himself with his sword in the fallacious belief that Cleopatra had already taken her life. When Cleopatra realized that Octavian wanted to take her to Rome as his war trophy, she poisoned herself, according to hearsay, by deliberately letting an asp bite her. This scene was frequently depicted in the visual arts (see for example *La morte di Cleopatra* painted ca 1690 by Sebastiano Ricci). The love story of Cleopatra and Marcus Antonius, and their death by suicide was also the subject of William Shakespeare's drama *Anton and Cleopatra* (1608).

According to Albert Camus, in *The myth of Sisyphus* (2005 [1942]), the only important philosophical issue is what can keep us from suicide when we realize the meaninglessness and absurdity of life. Writing about the dilemma of human

suffering, Hayes, Strosahl and Wilson (2012, p. 11) consider suicide as the most dramatic example of “the degree to which suffering is part of the human condition.” The authors conclude:

...there must be a process at work that leads so readily to so much psychological suffering—one that is uniquely characteristic of human psychology. The research strategy underpinning contemporary psychopathology will not necessarily detect this process because it is not specifically focused on the mundane daily details of human actions. Even if we assigned nearly every person one or more diagnostic labels, no amount of progress in the study of psychopathology would diminish our obligation to address and further explicate the pervasiveness of human suffering. (p. 11)

On the other hand, suffering and aggression turned toward oneself are akin to rage and aggression turned toward others (as in the case of Ajax). Furthermore, the explosive mixture of suffering and rage can result in lethal risk-taking. Here is a historical example of an accident considered to be “hidden suicide.” In the biographical play *Mrs. Klein* (Wright, 1988), the main theme is the clash between two powerful female psychoanalysts: the famous Melanie Klein and her daughter Melitta Schmideberg. Actually, their public fights staged in the British Psychoanalytical Society, as well as in their theoretical papers, started after and concerned, in a covert way, the death of Melanie’s son and Melitta’s younger brother Hans (Balsam, 2009). Hans died in April 1934 in a mountain accident and Melitta Schmideberg immediately claimed that Hans’ conscious or unconscious intent was suicide, whereas Melanie Klein felt accused by her daughter (Spillius, 2009). One aspect of their theoretical controversies concerned the nature of suicide. Klein interpreted suicidal impulses as a consequence of manic-depressive psychopathology, whereas Schmideberg focused on how suicidal feelings could come about through collapsed idealizations of loved ones (Balsam, 2009).

In this introduction I first refer to some statistical data on suicide and other forms of sudden violent death. I then present a short overview of the theoretical perspective on suicide and summarize the current state of knowledge regarding youth suicide and other forms of sudden violent death, including the Swedish research tradition in this area. Subsequently, I touch upon mental health issues and the developmental perspective on adolescence and emerging adulthood, as well as gender differences. I conclude with a methodological note on the need for multimethod approaches, inclusive of the objectives for highlighting the parents’ subjective perspective on their children’s death.



## 2.1 Epidemiological Perspectives

The World Health Organization (WHO, 2018a) reported the global age-standardized suicide rate of 10.5 per 100,000 population, which means ca 800,000 deaths by suicide every year. The rate of suicide attempts is much higher. Suicide is a worldwide problem; however, as much as 79% of suicides are committed in low- and middle-income countries. In 2016, suicide was reported to be the 18th global cause of death for all ages (WHO, 2019). In the age span 15–29 years, suicide is the second leading cause of death both globally and in European countries. The first leading cause of death among adolescents in US 2016 was “accidents,” i.e. unintentional injury (Cunningham et al., 2018; National Center for Health Statistics, 2019a). The main cause of death from external causes among 15–29-year-olds in Europe 2014 was transport accidents, followed by self-harm (Eurostat, 2019). As highlighted in a current research review (Cha et al., 2018), the prevalence of suicidal thoughts and behaviors among youths varies across countries, social groups, and such sociodemographic characteristics as sex, age, ethnicity, sexual orientation, and gender identity. Furthermore, death by suicide might be incorrectly classified as accidents or other sudden violent death, thus resulting in underestimated suicide rates in official reports (Bilsen, 2018).

The age-adjusted suicide rate for the Swedish population in 2017 was 11.8 and the crude rate (the number of deaths per 100,000 population at risk) was 14, which means approximately the same rates as in the whole EU. In 2018, 1,268 persons died by suicide (confirmed cases). Of these, 886 (70%) were men and 382 (30%) were women, corresponding to 21 male suicides and nine female suicides per 100,000 inhabitants. Another 306 cases were registered where there was suspicion of suicide but the intention could not be confirmed (Folkhälsomyndigheten, 2019a). Sweden’s suicide rate has decreased since the mid-1980s and has reduced by 20% over the past 15 years. However, the suicide rate among children and young adults has remained at the same level as before. In the age range 15–29, suicide was the first leading cause of death for women with 70 suicides in 2017, compared to 156 suicides by men, who more commonly die in accidents. Of all deaths in this age span, 28% were caused by suicide, which was the largest proportion of deaths compared to all other age groups. The corresponding rate of suicide for people over 65 was less than 1%. In the same year, seven children under the age of 15 died by suicide (Socialstyrelsen, 2018). In 2017, in the age range 15–29, 156 men (16.0 per 100,000) and 70 women (7.7 per 100,000) died by suicide (Folkhälsomyndigheten, 2019a). The corresponding distribution in 2018 was 161 men (16.4 per 100,000) and 85 women (9.3 per 100,000) (Folkhälsomyndigheten, 2019b).

Suicide, also referred to as “completed suicide,” is defined by the World Health Organization (WHO, 2014a, p. 12) as “the act of deliberately killing oneself,” and a suicide attempt as “any non-fatal suicidal behaviour and refers to intentional

self-inflicted poisoning, injury or self-harm which may or may not have a fatal intent or outcome.” The report adds the following comment (p. 12):

In addition, cases of deaths as a result of self-harm without suicidal intent, or suicide attempts with initial suicidal intent where a person no longer wishes to die but has become terminal, may be included in data on suicide deaths. Distinguishing between the two is difficult, so it is not possible to ascertain what proportions of cases are attributable to self-harm with or without suicidal intent.

This formulation suggests complexities in demarcating suicide and other forms of sudden violent death. As reported by the World Health Organization (WHO, 2014b), injuries globally account for five million deaths (9% of all deaths in the world). In low- and middle-income countries, the rates of injury deaths tend to increase. There is also a considerable variation in the type of injuries depending on the age, gender, region, and economical status. The World Health Organization defines injuries as caused by “acts of violence against others or oneself, road traffic crashes, burns, drowning, falls, and poisonings” (WHO, 2014b, p. 2). Traffic accidents cause 24% of injuries, followed by suicide (16%) and homicide (10%). Falls, drowning, fires, and poisoning account together for 30% of injuries; other unintentional injuries causes 18% of death from injuries, whereas war account for 2% of death from injuries.

In the age range 15-29 years, more than one quarter of all deaths are caused by traffic accidents (the most frequent cause of death), and followed by suicide as the second and homicide as the fourth cause of death. Globally, death caused by injuries and violence is nearly double as frequent among men as compared to women. Traffic accidents are the most frequent cause of death from injuries for both sexes. Suicide is the second leading cause of injury-related death for men and the third leading cause of injury-related death for women. Homicide is the third leading cause of death for men, whereas falls are the second leading cause of death for women (WHO, 2014b). In the US in 2016, according to the National Violent Death Reporting System (National Center for Health Statistics, 2019b), 5,469 people in the age range 10–29 died a violent death (excluding suicide), giving the crude rate of 10.89 (the number of deaths per 100,000 population at risk) and the age-adjusted rate of 10.35.

## 2.2 Theoretical Perspectives

Durkheim (1952 [1897]) explained the individual act of adult suicide in terms of societal influences and as socially patterned rather than an individual act reflecting mental illness. According to him, societies constrain individuals in two ways. The first dimension, *integration*, refers to participation in social institutions, binding individuals to each other. The second dimension, *regulation*, refers to specific

goals and means of membership in these institutions. The four categories of suicide identified by Durkheim are associated with extreme positions within these two dimensions. The *egoistic* suicide is connected with excessively low levels of integration, i.e. weakened bonds within social groups and increased individuality. The *altruistic* suicide is connected with excessively high integration, i.e. too strong bonds that unite groups and individuals who sacrifice themselves. The *anomic* suicide has to do with excessively low regulation, i.e. lack of control of individuals by the societal norms and values. The *fatalistic* suicide is related to excessively high regulation; individuals are too oppressed and restrained by the societal norms and values. In a study of youth suicide, Thorlindsson and Bjarnason (1998) applied Durkheim's concepts of integration and regulation on the micro-level of family interactions. They found that both family integration and parental regulation are protective factors against suicide attempts among youth, confirming Durkheim's conclusion that the influence of suicidal suggestion and imitation grows when integration and regulation are weak. Perhaps Durkheim's two dimensions, despite the limitations of his theory, can contribute to our understanding of the relatively high suicide rates among adolescents and young adults in Western countries in the last few decades.

Freud's (1930/1961) civilization diagnosis was similar to that of Durkheim: the price we pay for social cohesion and participation in our culture is the repression of individual desires. However, the focus of his investigations was intrapsychic processes and conflicts following conflicts between the demands originating from the external reality and individuals' sexual and aggressive impulses. Freud (1917/1957) linked adult suicide to melancholy. A suicidal person experiences strong ambivalent feelings of love and hate toward the lost significant other, and regresses from relatedness and grief to hostile identification with the lost person. Eventually, the hate and sadism is turned against the self. Accordingly, in the psychoanalytic tradition, the suicidal process is interpreted in intrapsychic rather than sociological terms, focusing on the hostile, rather than the protective super-ego. For example, Menninger (1938) regarded self-destructive acts as inwards-directed aggressiveness. Consequently, he interpreted a suicidal act as inverted homicide (or "murder in the 180th degree" according to Shneidman, 1985, p. 34). Furthermore, he described abortive, distorted, or attenuated forms of suicide through alcoholism, invalidism, martyrdom, purposive accidents, and self-mutilation. Menninger's pioneering study points to the need to explore the relationships among life events, internalizing and externalizing coping, and death by suicide or sudden violent death.

Lingering self-destructive processes are also in focus for Orbach's (2007) understanding of the phenomenon of suicide. He distinguished between self-destruction as a wish, as a result of emotional distress and failure to protect the self, as an outcome of distorted cognition, and as a personality characteristic. However, in each

particular case several self-destructive processes might coexist, leading to unbearable mental pain and ending with suicide. According to Orbach, this perspective is complementary to the epidemiological approach, focusing on risk factors and life stressors. Recurring themes in psychoanalytic approaches to youth suicide are escape from unbearable affects, cumulative losses reinforcing interpersonal vulnerability, the role of insecure attachment, pathological narcissism, developmental breakdown and post-traumatic inability to perform self-care (King, 2003). Further themes in current psychoanalytical theories of youth suicide are shame, envy, the role of the super-ego and ego-ideal, narcissistic rage, anger turned against oneself, deficient mentalizing capacity, different patterns of family dynamics, identity confusion and incongruent self-representations, confusion between the self and others, and self-disintegration (for a comprehensive review of psychoanalytic theories of suicide and current empirical evidence, see Ronningstad, Weinberg, & Maltzberger, 2009).

Implicit in several of these formulations is a typology of two main paths to youth suicide. In terms of attachment theory, the vulnerability to suicide is connected with two styles of insecure attachment (cf., King, 2003). The insecure-ambivalent attachment is connected with both dependency and intense struggles in close relationships. The insecure-avoidant attachment is associated with over-emphasis of issues of autonomy. Accordingly, Blatt (2004; Luyten & Blatt, 2013) distinguished between two types of depression. The anaclitic form of depression centers on issues of dependency, abandonment, and neglect in close relationships. The introjective type of depression focuses on issues of autonomy, performances, and self-worth. This suggests two types of vulnerability to suicide, the first connected with a pre-occupation with dependency and loss, and the second connected with a struggle with high self-demands and self-critical perfectionism.

On the most general level, theories of suicide can be categorized as sociological, psychological, and neurobiological/genetic (Berman, Jobes, & Silverman, 2006, Chap. 2). Neurobiological and genetic theories of suicide focus on biologically anchored vulnerabilities and are generally considered not to be autonomous explanatory models, but are integrated into other integrative and comprehensive models (Berman et al., 2006). The tradition of the sociological understanding of suicide started with Durkheim (see above) and is still influential in suicidology. One such contribution, referred to in Berman et al. (2006), is Maris' (1981) empirically-based notion of the suicidal career. According to this theory, vulnerability to suicide is due to cumulative effects of the individual's life history (see below, the hypothetical "stepladder" of negative life events in a case of sudden violent death, Figure 1).

On the border between the social and the psychological level of understanding, Joiner (2005) developed the interpersonal theory of attempted and committed suicide. According to this comprehensive theory, the roots of the wish to die involve

the sense of being a burden to others and a feeling of disconnection from others. This *perceived burdensomeness* and *thwarted belongingness*, together with the acquired ability to enact lethal self-injury, are prerequisites for suicide. Referring to this interpersonal theory, Ribeiro et al. (2013) regarded marked social withdrawal as the most serious expression of suicidal desire, following feelings of loneliness, real or imagined lack of supportive relationships, self-hatred, and the valuation of death as better than the excruciating life.

Modern psychological theories started with Freud's and followers' idea of turning rage and murderous hate against the self (as mentioned above). Psychological developmental theories of youth suicide focus on unresolved developmental tasks in pre-adolescence, adolescence and emerging adulthood (further commented on below in the section *Developmental Perspective*). According to family system theory, role conflicts, blurred boundaries between family members, alliances, coalitions and secrets, and lack or breakdown of communication within the family contribute to suicidal acting out (Richman, 1986; referred to in Berman et al., 2006). The cognitive and cognitive-behavioral tradition, referred in Berman et al. (2006) and represented by Beck (Beck, Steer, Kovacs, & Garrison, 1985), focuses on cognitive errors and distorted thinking, starting with feelings of hopelessness and negative thoughts about oneself, other people, and the future. Several psychological theories focus on agonizing mental pain. Shneidman (1993) coined the term "psychache": "Psychache is the hurt, anguish, or ache that takes hold in the mind ... the pain of excessively felt shame, guilt, fear, anxiety, loneliness, angst, dread of growing old or of dying badly" (Shneidman, 1996, p. 13). According to this model, suicide is a flight from unbearable suffering and insupportable psychic pain. This line of understanding is supported by studies of suicidal notes, commonly expressing that life is just too painful to bear (Foster, 2003).

As summarized in an overview of psychological models of suicide (Barzilay & Apter, 2014, p. 306), some models focus on vulnerability factors, such as "impulsive aggressive tendencies, maladaptive cognitive styles, problem solving deficits, attention bias, over-general memory, and acquired capability for self-harm," whereas other models emphasize the role of stressful life events, leading to "mental pain, hopelessness, entrapment, and interpersonal distress." However, few theoretical models and empirical studies try to integrate these two clusters of factors or grasp the interactions between different factors. One exception is the *integrated motivational-volitional model*, put forward by O'Connor (2011), describing stage-development toward suicide. Furthermore, Barzilay and Apter notice the considerable overlap across the different models, similar phenomena being conceptualized in different terms, thus making it more difficult to accumulate empirical evidence.

## 2.3 Suicide: Current State of Knowledge

A systematic review of the current state of knowledge is beyond the scope of this thesis. However, some clusters of well-documented findings are summarized below. According to previous systematic reviews (Beautrais, 2000; Bilsen, 2018; Cavanagh et al., 2003; Isomätsä, 2001), major risk factors for suicide among young people are current mental disorders and former suicidal behavior and psychiatric care.

Mood disorders, including depression, are the most often reported diagnoses among those who attempted suicide or died by suicide (Bourdet-Loubère, & Raynaud, 2013; Brent et al., 1993; Cheng et al., 2000; Eapen & Crnec, 2012; Lewinsohn, Rohde, & Seeley, 1994; Lönnqvist et al., 1995; Runeson, Beskow, & Waern, 1996; Williams et al., 2009). However, depression seems to be most directly associated with suicidal ideation and not actions (Sanchez & Le, 2001). Furthermore, suicidal behavior in individuals diagnosed with mood disorder is often precipitated by such strains in life as interpersonal conflicts or losses and financial or job problems (Sher, Oquendo, & Mann, (2001). A recent Italian study (Dell’Osso et al., 2019) found an association between autism spectrum disorder and mood disorder, as well as between autism spectrum disorder and suicidality. Antisocial behavior and conduct disorder have been shown to increase the odds of completed suicide by threefold in comparison to those without this diagnosis (Shaffer et al., 1996). The association between borderline personality disorder and suicidality is well-established in the literature (Cheng et al., 2000; Lesage et al., 1994; Runeson & Beskow, 1991a; Skodol et al., 2002). Furthermore, death by suicide is common among young people with schizophrenia (Palmer, Pankratz, & Bostwick, 2005). Bipolar and unipolar disorders increase the risk of death by suicide for both men and women, whereas other depression increases this risk for women and schizophrenia for men (Tidemalm, Långström, Lichtenstein, & Runeson, 2008). Among adolescents and young adults, mental disorders, and especially in combination with substance abuse, increase the risk of suicide (Cavanagh et al., 2003).

Familial aggregation of suicide has been explained by an interaction between genetic factors and shared environmental factors. Swedish total population studies showed that, despite a similar environment in childhood and adolescence, monozygotic twins had a higher risk of suicidal behavior than dizygotic twins of the same gender, and full siblings had a higher risk than maternal half-siblings (Tidemalm et al., 2011). The authors speculate that this genetic component can be connected with impulsive aggression. Furthermore, a mother’s, but not a father’s, suicide increased the risk of hospitalization following suicide attempts in offspring (Kuramoto et al., 2010). Child and adolescent offspring (but not young adults) of parents who died by suicide had an increased risk of suicide. Child offspring of parents who died by suicide had an increased risk for drug abuse or psychosis.



Child offspring (but not adolescents and young adults) of parents who died by accident were also at increased risk of suicide (Wilcox et al., 2010). Adoptive children of parents who died by suicide or were hospitalized for suicidal behavior, in combination with the adoptive mother's psychiatric hospitalization when the adoptive child was younger than 18 years, increased the risk of the adoptee making a suicide attempt (Wilcox, Kuramoto, Brent, & Runeson, 2012).

Five major risk factors for death by suicide, identified in a case-control psychological autopsy study from Taiwan (Cheng et al., 2000) were a loss event in the previous year (loss of health, person, cherished idea, or possession), suicidal behavior in parents or siblings, a major depressive episode, emotionally unstable personality disorder according to ICD-10 (WHO, 1992), and substance dependence. According to Bilsen's (2018) review, risk factors for death by suicide include mental disorders, previous suicide attempts, emotional difficulties, family factors, specific life events, contagion-imitation, and availability of means. Independent of psychiatric factors, negative psychosocial factors, history of suicidal behavior in the family, divorced or separated parents, death of a parent, alcohol or drug abuse, self-harm, disciplinary problems, antisocial behavior, and adverse life events (including violence at home, bullying and sexual abuse) are a common background (Beautrais, 2000, 2003; Bilsen, 2018; Cavanagh, Carson, Sharpe, & Lawrie, 2003; Cavanagh, Owens, & Johnstone, 1999; Cheng et al., 2000; Gould et al., 1996; Hawton & James, 2005; Heikkinen, Aro, & Lönnqvist, 1994; Marttunen, Aro, Henriksson, & Lönnqvist, 1994; Tidemalm, et al., 2011).

Among children and adolescents, negative psychosocial factors have been demonstrated to increase the risk of suicide, independent of diagnostic factors (Gould et al., 1996). Sons of psychosocial risk mothers, especially in families with alcohol or drug abuse, experienced more adverse life events, had poorer mental health, had more often uncompleted compulsory school education, and had more serious suicidal thoughts in adolescence than teenagers from a community sample (Wadsby, Svedin, & Sydsjö, 2007). Cumulative exposure to traumatic events has been shown to have a negative impact on mental health in adolescence (Nilsson, Gustafsson, & Svedin, 2012). A Swedish long-term cohort study (Rajaleid et al., 2015) showed that adverse social circumstances in adolescence predicted an increased risk of internalizing mental health symptoms until middle age. A Swedish register study of a cohort of 478,141 individuals born in the period 1984-1988 showed that all kinds of adverse childhood experiences were associated with depression in early adulthood (Björkenstam, Vinnerljung, & Hjern, 2017). Another register study of a cohort of 548,721 Swedish adolescents and young adults born in the period 1987-1991 (Björkenstam, Kosidou, & Björkenstam, 2017) corroborated that adverse childhood experiences, especially accumulated adversity, are a

risk factor for later suicide. Similarly, a Norwegian study of Sami and non-Sami adolescents reported a strong association between concurrent adversities in life and suicide attempts (Reigstad & Kvernmo, 2017), as well as conduct problems (Reigstad & Kvernmo, 2016). A longitudinal follow-up of 2,300 teenage students in Uppsala, Sweden, found an association between adolescent depression and increased risk of adversities in adult life, such as further mental health problems, lower attained educational level, and relationship problems (Alaie et al., 2018). Delinquent behavior among adolescents increases the risk of death by suicide in young adulthood (Björkenstam et al., 2011).

The life-course model of the etiology of suicidal behavior captures the accumulative effects of different risk factors, including socio-economic and educational disadvantages, problems within the family of origin, adverse childhood experiences, personality factors, psychiatric disorders, and recent stressful life events (Fergusson, Woodward, & Horwood, 2000). Brent et al. (1993) showed that suicide completers were more likely, in the year before death, to have experienced interpersonal conflict with parents or with boy/girlfriends, disruption of a romantic attachment, and legal or disciplinary problems. Among youth affected by conduct and substance abuse, recent legal and disciplinary problems increased the risk of suicide even after controlling for psychiatric disorders (Fergusson et al., 2000). A nationwide psychological autopsy study of suicides in Finland indicated a strong relatedness between adolescent suicide and antisocial behavior (Marttunen et al., 1994). Furthermore, separation from parents, parental alcohol abuse and parental violence, as well as several stressors, were common among male victims exhibiting antisocial behavior. A synthesis of psychological autopsy studies (Foster, 2011) found that almost all suicides had experienced adverse life events within one year of death, notably interpersonal events, some of the risk being independent of mental disorder. A systematic review (Liu & Miller, 2014) found 20 studies examining life stressors in relation to death by suicide, the majority of them providing evidence for such an association, particularly with interpersonal stressors. However, substantial inconsistencies across studies were found concerning the specific nature of interpersonal stressors, as well as methodological shortcomings, compelling further research.

General population studies conducted in the US (reported in Chiles & Strosahl, 2018) showed a lifetime prevalence of suicide attempts in the range 10-12%. Furthermore, about 20% of respondents reported at least one episode of suicidal ideation that included formation of a plan, and additional 20% reported troublesome ideation without concrete planning. The authors underscore that most people who have had suicidal thoughts do not attempt to take their lives. As noted in a current research review (Cha et al., 2018), we still did not know as much as we need to know about the paths followed by youths from suicidal thoughts to actual attempts



to take their lives. According to the ideation-to-action framework (Klonsky, May, & Saffer, 2016), the development of suicidal ideation and the transition to suicidal behavior are different phenomena. Most mental disorders (including depression), hopelessness, and impulsivity, predict suicidal ideation but do not differentiate between ideation and suicide attempts. However, the likelihood of acting on suicidal thoughts is much higher in the presence of impulsive aggression (Brent & Mann, 2006). An important factor on the threshold between ideation and action is the access to means (Klonsky et al., 2016). Another important factor on this threshold is an acquired capacity to enact lethal self-injury, besides the sense that one has become a burden to loved ones, and that one is not interpersonally connected with significant others of a group (Joiner, 2005).

Risk factors for suicide have been described as fixed or variable, and as either distal or proximal (Berman, Jobes, & Silverman, 2006, Chap. 1). A fixed risk factor cannot be manipulated or easily influenced (e.g., age, gender, or genetic disposition). Variable risk factors can change spontaneously or through different interventions (such as mental disorders in different forms of treatment). Distal (predisposing) risk factors represent an underlying vulnerability or predisposition to being suicidal (such as adverse childhood experiences or specific personality traits), which can be actualized by proximal risk factors. Proximal (precipitating) risk factors are circumstances or life events that are closely related in time to the suicide and that may precipitate or trigger suicidal behavior. Most empirically anchored psychological models of suicide focus either on vulnerability factors and coping deficits or on the situational perceived stress (Barzilay & Apter, 2014). The interaction between predisposing vulnerability factors and precipitating life stressors, even if theoretically acknowledged, is less explored. Still, stressful life events seem not to be a sufficient cause of youth suicide; rather, they can function as triggers actualizing predisposing factors, vulnerabilities, and coping deficits (Berman et al., 2006, Chap. 3).

In a review of research evidence, Cha et al. (2018) scrutinized the current state of knowledge of correlates and risk factors for youth suicide. Among the environmental risk factors, they found the strongest evidence for the role of childhood maltreatment early in life, bullying or other forms of peer victimization (including cyber-bullying) later in life, and the influence of peers, media, and the Internet on adolescent suicidal behavior (copycat suicides, media coverage of suicides, and access to suicide-relevant information). In the psychological domain, the strongest evidence was found for feelings of worthlessness and low self-esteem. In multivariate models (after accounting for depression and previous suicidal ideation or behavior), impulsivity did not predict suicidal ideation or suicidal action. There was only moderate evidence for the role of experienced loneliness (lack of interpersonal connectedness), and in the multivariate analyses the role of loneliness

appeared to be mediated by psychopathology. Biological correlates of youth suicide were found to attract growing interest; however, few consistent results were found. For example, the role of genetic heritability in the familial transition of suicide is still not clear enough. One of the conclusions from this review was that there were few studies applying a developmental perspective on youth suicide.

A further area of research, relevant for prevention and treatment, is warning signs. The above summarized risk factors are not warning signs. Risk factors indicate increased distal or proximal risk for suicide, whereas warning signs indicate immediate risk (Rudd et al., 2006). The American Association of Suicidology working group compiled a consensus list of warning signs for suicide, including hopelessness, rage, anger, seeking revenge, acting recklessly or engaging in risky activities, feeling trapped, increasing alcohol or drug use, anxiety, agitation, being unable to sleep or sleeping all the time, dramatic changes in mood, feeling that there is no reason for living and no purpose in life, withdrawing from friends, family or society (Rudd et al., 2006, p. 259). What is important for prevention and intervention is to consider all warning signs as forms of overt or covert, intentional or unintentional (unconscious) communication (cf., Berman et al., 2006, Chap. 2).

Protective factors are often defined as factors enhancing resilience and counterbalancing risk factors. For example, a review of recent research literature (Turecki & Brenner, 2016) found effective coping and problem-solving as one of the protective factors against suicide. Major protective factors for youth suicidality include parental presence, connectedness to parents and peers, belongingness to community and social institutions, positive connection to school and academic achievement, social competence, coping and problem-solving skills, contacts with caregivers, and effective mental health care (Berman, Jobes, & Silverman, 2006, Chap 8; Borowsky, Ireland, & Resnick, 2001; Bridge, Goldstein, & Brent, 2006; Gould et al., 1996; Jones et al., 2011; Salzinger, Rosario, Feldman, & Ng-Mak, 2007).

The current state of knowledge has been summarized by Lester (2014) in the following way:

Among the risk factors are neurophysiological (e.g., serotonin levels), psychiatric (e.g., diagnosis), intrapsychic (e.g., emotional dysregulation), experiential (e.g., stressful life events), interpersonal (e.g., broken relationships), and societal (e.g., oppression and discrimination) variables. Among the possible warning signs are those proposed by the American Association of Suicidology ([www.suicidology.org](http://www.suicidology.org)), summarized by the mnemonic IS PATH WARM: suicidal Ideation, Substance abuse, Purposelessness, Anger, Trapped, Hopelessness, Withdrawing, Anxiety, Recklessness, and Mood change. (p. xi)

Introducing his study of suicidal notes, Lester (2014) pointed out that we know a lot about risk factors and warning signs that predict suicide, but there is no necessary or sufficient cause for suicide and we cannot explain why people kill themselves: “Rather than *explaining suicide* (looking for causes), perhaps we can *understand suicide*, at least in one individual, a phenomenological approach” (p. xii).

## **2.4 Suicide and Sudden Violent Death – Two Sides of the Same Coin?**

de la Grandmaison (2006) argued for the need to differentiate between sudden natural unexpected death and violent causes of unexpected death. Sudden violent deaths have traditionally been viewed as either “accident,” “homicide,” or “suicide.” Cunningham, Walton, and Carter (2018) classified injuries causing death in children and adolescents according to the underlying mechanism (e.g., motor vehicle or firearm) and intent (e.g., suicide, homicide, unintentional, or undetermined). They made a case for a shift in public perception of injury deaths from being viewed as “accidents” to being regarded as socio-ecological phenomena, amenable to prevention. Adolescence and young adulthood is a period of not only elevated rates of suicide attempts and death by suicide, but also increased health-threatening and risk-taking behaviors (King, Ruchkin, & Schwab-Stone, 2003).

### **2.4.1 Major risk factors for sudden violent death among young people**

Major risk factors for sudden violent death among young people include male sex, antisocial personality disorder, criminality, alcohol and drug abuse, adverse family psychosocial characteristics, aggressive feelings and acts, and risk-taking behavior. Greatly increased mortality rates for other than natural causes (suicide, overdose, accident, homicide) have been found among Finnish men with antisocial personality disorder (Repo-Tiihonen, Virkkunen, & Tiihonen, 2001) and antisocial and offending young people (Coffey et al., 2003). An analysis of data from 14,294 subjects from the Stockholm Birth Cohort study (af Klinteberg, Almquist, Beijer, & Rydelius, 2011) demonstrated an association between adverse psychosocial family characteristics and both subsequent criminal behavior and mortality. A study of 49,398 male Swedish conscripts followed-up over 35 years (Stenbacka & Jansson, 2014) showed a significant association between adolescent criminality and unintentional injury mortality. Risk factors included alcohol and drug abuse in combination with frequent criminality. An Australian study of young offenders (Kinner et al., 2015) found an increased risk of preventable death among those engaging in risky substance use, even if fewer than half of the deaths were drug-related.

Aggressive feelings and acts both against oneself and others, health-compromising behavior, and putting oneself at risk are recurring themes in studies of sudden violent death among youths, thus suggesting that some sudden violent death might be regarded as hidden suicide. A prospective longitudinal study of early violent death among 1,829 delinquent youths in Chicago, Illinois (Teplin et al., 2005) found that 95.5% of the 64 deaths were homicides or resulted from legal interventions. Delinquent African American male youths had the highest mortality rate. The authors concluded that future studies should examine whether minority youths express suicidal intent by putting themselves at risk of homicide, thus assuming that sudden violent death might be regarded as hidden suicide. Accordingly, a qualitative study, using focus groups, of 15 young black males classified as serious violent, detained in an adult jail, revealed how the code of the street, informal rules that govern interpersonal violence among poor inner-city black male youths, increases the likelihood of violent victimization (Richardson et al. 2013). de Château (1990) found an overrepresentation of aggressive feelings and acts, both against oneself and others, during the first contact with Child and Adolescent Psychiatry (CAP) among those who died from suicide, accidents, or abuse of alcohol or drugs during a 30-year follow-up period. A Finnish prospective cohort study of 57,407 adolescents (Mattila et al., 2008) showed that health-compromising behaviors in adolescence (recurring drunkenness and daily smoking) predict injury death during the transition to adulthood, even after adjusting for socioeconomic status. On the other hand, poor health as such was not a significant predictor of death from injury.

Several authors (referred to in King et al., 2003) have proposed a “continuum of adolescent self-destructiveness” from covert expressions, such as substance use, risky sexual activity and driving, to overt self-harm and suicidal behavior. The authors examine potential associations between suicide and covert manifestations of self-destructivity. Several studies have demonstrated the co-occurrence of different problem behaviors in adolescence. Both suicidal behavior and other problem behaviors in adolescence are connected with similar psychiatric diagnoses, such as depression, oppositional defiant disorder and conduct disorder, addiction and anxiety disorders. Furthermore, adolescent problem behaviors create a vicious circle of negative interactions with significant others, impaired coping skills, elevated exposure to stressful life events, more severe emotional problems, and further problem behaviors. The most important association, according to the authors, consists of shared developmental forerunners, such as personality traits as impulsivity, recklessness, and aggression, dysfunctional family patterns, and shared psychosocial risk factors. Additionally, King et al. (2003) emphasize the heterogeneity of suicidal behaviors in adolescence, the need to differentiate between paths to suicide attempts and to death by suicide, the need to take into account gender differences in risk factors, and the need to adopt a developmental perspective on different pathways to youth suicidality.

#### **2.4.2 Suicide and sudden violent death – the Swedish perspective**

In Child and Adolescent Psychiatry in Sweden (where CAP has been a specialty since 1951), there has been an interest in explaining the risk factors behind suicidal attempts, death by suicide and sudden violent death among children and youths (Andersson, Jonsson, & Kälvesten, 1976; Bergstrand & Otto, 1962; de Châteaueau, 1990; Engqvist & Rydelius, 2006; Nylander, 1979; Nylander, Hellström, & Möllerström, 1966; Otto, 1972; Runeson, 1989; Rydelius, 1984, 1988). The more important findings, representing the state of knowledge of that time, are summarized below.

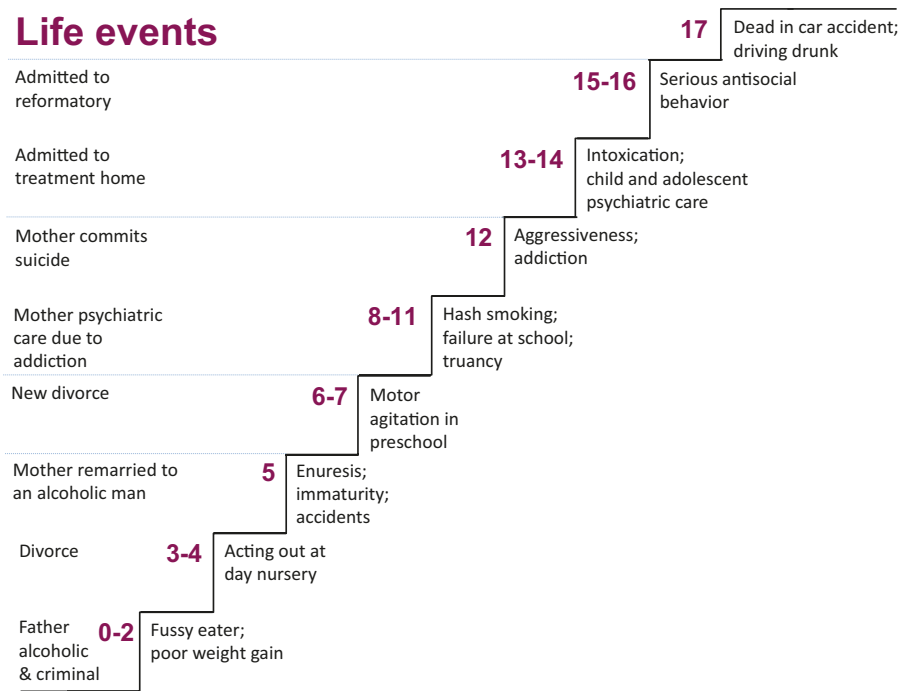
More pronounced social adjustment difficulties were found among those who committed suicide than among those who made suicide attempts (Otto, 1972). The mortality rate was 10 times higher in socially maladjusted boys than ordinary schoolboys (Andersson, Jonsson, & Kälvesten, 1976). Most young people who died in suicide or sudden violent death had grown up with addicted parents or exhibited antisocial behavior (Nylander, 1979). There is a link between childhood environment, development of antisocial behavior and psychiatric problems—and sudden violent death at a young age (Rydelius, 1984, 1988). Suicidal attempts before the age of 18 years seem not to be an important indicator for a later suicide but should be looked upon as “a cry for help” from children and youths in a stressful life situation (Otto, 1972; Runeson, Beskow, & Waern, 1996). A gender difference was found. Boys, using more violent measures (hanging, using knives, shooting themselves, etc.) had a higher risk of dying from their suicidal attempts compared to girls (Otto, 1972). However, the risk of dying by suicide among youths with conduct disorder seems to be higher for girls compared to boys (Rydelius, 1988).

Conduct disorder is one of the most common psychiatric disorders in children and adolescents between the ages of four and 16 (Shamsie & Hluchy, 1991) and has been documented to be associated with sudden violent death (Engqvist & Rydelius, 2006; Rydelius, 1984, 1988). CAP out- and inpatients have a somewhat higher risk of dying from suicide or sudden violent death compared to the average population (de Châteaueau, 1990; Engqvist & Rydelius, 2006; Nylander, 1979; Rydelius, 1984). A slightly increased suicide risk is also found in patients referred to CAP as emergency cases because of suicidal attempts (Engqvist & Rydelius, 2006). These results are consistent with a Norwegian prospective study of 1,095 adolescent psychiatric in-patients (Kjelsberg, 2000). Increased mortality rates for unnatural causes of death were found during the follow-up period up to 33 years after first hospitalization.

Delinquent children and youth have a high risk of dying from suicide, intoxication, accidents or other forms of sudden violent death, including homicide (Nylander et al., 1966; Andersson et al., 1976; Rydelius, 1988; af Klinteberg et al., 2011).

These results are congruent with a register study of 7,577 males, of which 135 died between the ages of 18 and 33 (39% in accidents and 31% in suicide). Early contact with the police, truancy and school misconduct, adverse upbringing conditions, divorce and parents’ mental disorders were significant predictors of later premature mortality (Stattin & Romelsjö, 1995).

Taken together, these studies suggested that children and adolescents growing up in an insecure environment show symptoms of acting out as a reaction to their difficult life situation, and are at risk of both suicide and sudden violent death. Based on previous CAP research (Nylander, 1981), this process could be conceptualized as a hypothetical “stepladder” of negative life events and symptoms preceding the death (Figure 1). Potentially, it could be possible to intervene at each stage (child care center, day nursery, preschool, school, CAP, etc.), possibly hindering further negative developments. Furthermore, it seems that the suicidal process in youths is different from in adults. However, some of the conclusions, for example about gender differences, have to be revised following changes in the society and culture.



**Figure 1.** Hypothetical “stepladder” of negative life events and symptoms preceding the death (based on an authentic case).

## **2.5 Mental Health in Adolescence and Emerging Adulthood**

Increased mental health issues among young people in the Western countries have attracted growing attention during the last four decades. More US adolescents and young adults experienced severe psychological distress, including depression and suicidal thoughts, and more attempted suicide in the late 2010s than in the 2000s (Twenge et al., 2019). According to a recent World Health Organization report (WHO, 2018b) 29% of 15-year-old girls and 13% of 15-year-old boys in European countries reported “feeling low” more than once a week. In 2016, 16 % of young people aged 16-29 years in the EU reported that they suffered from a long-standing health problem. The lowest rates of long-standing health problems (less than 5%) were observed in Romania, Bulgaria, Italy and Greece, whereas the highest rates (23-24%) were found in Finland and Sweden (Eurostat, 2019).

The proportion of Swedish 13- and 15-year-old youths reporting psychological and somatic ill-health has doubled since around 1985 and nowadays more than 62% of the 15-year-old girls and 35% of the boys report multiple psychosomatic health complaints. The increase in multiple health complaints has been more pronounced in Sweden than in other Nordic countries (Folkhälsomyndigheten, 2018, 2019a). Among the contributing factors, the report stressed the effects of a weakened Swedish school system and of the increased awareness of higher demands in the labor market. Furthermore, comprehensive changes in society, such as increased individualization, openness about mental ill-health, medicalization, lower demands on the children, and increased electronic media use, might have negative impacts on health. In a national public health survey (Folkhälsomyndigheten, 2019a), every third woman and every fifth man in the age group 16–29 years reported reduced mental well-being in 2018. Among 11-13-year old the most common complaints were feeling depressed, irritated, nervous, or in a bad mood, as well as sleeping problems, headache, stomach or back pain, or dizziness. Common explanations for the increase of self-reported mental ill-health included (1) greater openness regarding mental illness, (2) expansion of diagnostic categories, and (3) changing life conditions leading to normal reactions of not feeling well.

A previous report from the Organization for Economic Cooperation and Development (OECD, 2013) noted that Swedish youths were the worst affected, with one fourth of 16-18-year-old young people suffering from a mental disorder. Disability benefit claims for mental ill-health had almost quadrupled among Swedish youths since the early 2000s, which was the largest increase across the OECD. Poor mental health was significantly more common among those who were neither in work, nor in education or training, leading to a vicious cycle of exclusion from the labor market and mental ill-health. According to the Swedish National Board of Health and Welfare (Socialstyrelsen, 2017, 2019), ca 10% of girls and boys aged 10-17,



10% of young men and 15% of young women aged 18-24 had some form of mental ill-health, defined as at least one outpatient or inpatient psychiatric contact or at least one dispensation of prescribed psychoactive drugs. The most common diagnoses were depression and anxiety disorders.

To conclude, mental health problems, death by suicide and other forms of sudden violent death in adolescents and young adults have to be related to the developmental tasks and strains that arise in this period of life.

## **2.6 Developmental Perspective – Adolescence and Emerging Adulthood**

Childhood, adolescence, and emerging adulthood are critical life periods for well-being and mental health for the rest of the life. These are periods of development of self-identity, autonomy, capacity for intimacy, social interaction, performance in educational and work contexts, coping with strains in life, etc., influencing future life of the individuals. The development of psychosocial skills can be seriously jeopardized by adverse childhood experiences, violence and conflicts in the family of origin, bullying in peer groups and online, as well as adverse socioeconomic conditions.

Erikson described identity development as “a gradual unfolding of the personality through phase-specific psychosocial crises” (1959, p. 119). The core conflict in the school age is industry vs. inferiority, in adolescence identity vs. role confusion, and in young adulthood intimacy vs. isolation. In Erikson’s view, each unresolved phase-specific conflict and maturational task makes it more difficult to deal with future crises and tasks, thus contributing to negative psychosocial trajectories. Erikson (1968) regarded the period between childhood and young adulthood as a crossroad that is decisive for future developments. Blos (1967) contributed with an additional aspect of adolescent development, the psychic restructuring, called by him “the second individuation process,” that manifests from pre-adolescence to late adolescence. He described the adolescent passage as a period where there is a second chance to manage earlier shortcomings, but also a time of elevated risk for development of lasting psychopathology.

Arnett (2006, 2015) introduced the concept of emerging adulthood as a distinct developmental phase, when the young person can explore such issues as “who I am” and “what I want in my life” (in the domains of love and work). In Western societies, young people have access to an extended period in which to explore their identity and future possibilities; however, this is accompanied by an increasing prevalence of emotional problems (Arnett, 2000). Schwartz (2016) described emerging adulthood as a “two-faced” developmental stage. For many people this



period opens a new possibility to turn previous negative developments into more positive life trajectories, whereas others are exposed to new risk factors and experience increased symptoms of mental ill-health. Robert and Davis (2016) called young adulthood “the crucible of personality development.” Kroger and Marcia (2011) proposed two dimensions of identity formation in adolescence and young adulthood: exploration (of different social roles and life plans) and commitment (the degree of personal investments in action and belief). Based on interview data, they described four types of identity status: identity achievement, foreclosure, moratorium, and identity diffusion. A meta-analysis of studies of identity status (Kroger, Martinussen, & Marcia 2010) showed that most young adults do not achieve stable identity status and the identity formation continues beyond emerging adulthood.

According to Blatt’s (2008) “double helix” model, psychological well-being presupposes successful solution to the developmental task of finding a balance between intimacy and individuation, and between interpersonal relatedness and autonomy. Disrupted personality development and severe imbalance between these two dimensions of relatedness and self-definition, especially in adolescence and emerging adulthood, might result in distinct forms of psychopathology (Luyten & Blatt, 2013). Anaclitic pathology is characterized by maladaptive dependency and neediness in relationships with other people, whereas exaggerated preoccupation with achievements and self-critical perfectionism are distinctive of introjective pathology. Previously, the theme of developmental breakdown in adolescence and deadlock in the development to adulthood was elaborated by Laufer and Laufer (1984). According to their view, suicidal acts in young people always have the meaning of a violent attack on the new sexual body. Such acts presuppose a break with reality and as such they have to be considered as acute psychotic episodes (cf. Laufer, 1995).

Relevant in this context is also a conceptual paper based on Erikson’s theoretical model (Portes, Sandhu, & Longwell-Grice, 2002) and focusing on the interplay between developmental and psychosocial factors in the paths to adolescent suicide. According to the authors, parental separation and family dysfunction are associated with anger and violent behavior. Failure to successfully resolve the pre-adolescent crisis (industry vs. inferiority) contributes to a cumulative risk for suicide. In adolescence, when the crisis is about identity vs. role confusion, the stressful situation that precipitates suicide is often of a transitory nature, but has fatal consequences due to adolescents’ egocentric here-and-now perspective and inability to take into account the effects of the suicidal act on those close to them. In young adulthood, failure to learn adequate problem-solving skills in earlier stages of life can contribute to insurmountable difficulties in resolving the crisis of intimacy vs. isolation and can end with a suicide attempt (Portes et al., 2002).

As argued by King (2003), adolescence can be regarded as a developmental period of particular risk for suicide. Besides other well-documented risk factors, developmental challenges in adolescence include increased vulnerability to loss of significant others and to narcissistic disappointments, testing of friendships and romantic relationships, establishing independence from the family of origin, and proving one's worth and capacity for achievement.

To sum up, in order to understand the phenomenon of youth suicide and other forms of sudden violent death a developmental perspective is necessary. Unresolved developmental tasks in different developmental stages, in interplay with unfavorable psychosocial circumstances, can lead to psychopathology, self-destructiveness and destructiveness, self-harm, risk-taking and antisocial behavior, and can end with a lethal outcome. Furthermore, this brief overview of developmental tasks in youth suggests that beside the two paths to suicide and sudden violent death, centered on issues of love and relationships and issues of work and achievements, the third potential path involves issues of self-identity.

## **2.7 Gender Differences**

Gender differences in suicidal behavior are well-documented and have been called "the gender paradox of suicide" (Canetto & Sakinofsky, 1998). In developed Western countries, young women have higher rates of suicidal ideation and suicide attempts, whereas death by suicide is more than twice as frequent among young men (Payne, Svami, & Stanistreet, 2008; Wasserman, Cheng, & Jiang, 2005). On the other hand, a Danish study found no significant gender differences in suicide method (Nordentoft & Branner, 2008). Accordingly, in Europe hanging is the most common suicide method for both sexes (Värnik et al., 2008), whereas firearms represent the most common suicide method for both men and women in the US (Callanan & Davis, 2012). Furthermore, the rates of sudden violent death are much higher among men than among women. In US, the rate of death due to accidents is sharply increased among men and women aged 20-24 years; however, young men die by accident three times more often than women. This has been interpreted as a consequence of an inherited tendency toward aggression, socialization practices that endorse violence, and an environment that models and supports violence for US males (Stillion & Noviello, 2001). Accordingly, Beautrais (2002) related higher rates of suicidal ideation and suicide attempts among young women to their higher rates of internalizing disorders, and the higher rates of death by suicide among young men to higher rates of externalizing behaviors. This gender difference is often linked to differences in masculine and feminine gender-role socialization: whereas expressions of anger, aggression, and self-assertion are commonly seen as masculine, expressions of relational needs are seen as feminine (Rosenfield, 2000).

Boys tend to show more overt, physical or verbal aggression, whereas girls tend to show more aggression in peer relationships via manipulation, social exclusion, and creating vicious rumor (Crick & Zahn-Waxler, 2003).

Studies based on Blatt's two-polarities model have elucidated the association between internalizing problems (such as self-blame, self-harm and depression) and an exaggerated focus on relatedness, intimacy and affiliation needs, particularly among adolescent women, whereas externalizing problems (such as risk-taking, delinquency and antisocial behavior) seem to be associated with sensitivity towards issues of self-definition, autonomy and achievement, particularly among adolescent men. However, the comorbidity of internalizing and externalizing disorders is well-documented (Luyten & Blatt, 2013). Accordingly, a study of themes of love and achievement expressed in suicide notes left by adult women and men (Canetto & Lester, 2002) found no gender difference. Both among men and women, and independently of age, the themes of love were more frequent than the themes of achievements.

According to a recent systematic review (Miranda-Mendizabal et al., 2019) common risk factors for death by suicide for both genders in adolescence and young adulthood include childhood maltreatment, negative life events (such as a death of a parent or losing a boy/girlfriend), previous suicidal behavior in the family, and a history of any mental disorder or abuse. Male-specific risk factors for death by suicide include drug abuse, externalizing disorders (conduct disorder and antisocial disorder), and access to means (such as firearms, pesticides, toxic gas). Despite several female-specific risk factors for suicidal behavior (eating disorder, post-traumatic stress disorder, bipolar disorder, being a victim of dating violence, depressive symptoms, interpersonal problems, and abortion), this review could not find any study of female-specific risk factors for death by suicide. However, Rydelius (1988) previously found that conduct disorder in adolescent girls was a female-specific risk factor for death by suicide.

Furthermore, help-seeking patterns differ between young women and men. Men were less likely to seek professional help for mental problems than women (Addis & Mahalik, 2003; Beautrais, 2002; Hawton, 2000). Whereas women were more likely to seek help from peers, men were more likely to seek help from emergency services (Michelmores & Hindley, 2012). It has been argued that masculine stereotypes are an effective barrier to help-seeking (O'Leary & Phillips, 2008). For men, admitting a need for help might imply loss of control and autonomy, loss of status, incompetence and dependence. Reluctance to seek help might be further reinforced by fear of failure, suppression of distress, and emotional unexpressiveness, thus further contributing to the gender gap in suicide and premature death (Möller-Leimkühler, 2003).

To sum up, understanding paths to youth suicide and other forms of sudden violent death presupposes a gender perspective on identity formation and personality development in a social and cultural context.

## **2.8 A Methodological Note**

Decades of suicide research have provided us with extensive and highly relevant knowledge of predictors, risk factors, warning signs, and protective factors, empirically anchored in epidemiological studies, population-based register studies and cohort studies, and last but not least, psychological autopsy studies. Most of this research is based on quantitative methodology. However, it has been questioned whether quantitative studies only can take the field of suicidology further. For example, Hjelmeland and Knizek (2010) made a strong case for the necessity of opening the field to extended use of qualitative methodology in order to advance our understanding of suicide and suicidal behavior. In a commentary, Lester (2010) placed himself beyond the polarity of bipolar constructs, such as qualitative vs. quantitative methods, explaining vs. understanding, case studies vs. large samples, descriptive vs. inferential statistics, idiographic vs. nomothetic approaches, and phenomenological vs. interpretative methods. Likewise, Rogers and Apel (2010) made a call for mixed methods designs. Fitzpatrick (2011) argued for the complementarity of quantitative and qualitative approaches: qualitative research in suicidology opens new perspectives on understanding phenomena that are not accessible via other approaches. Furthermore, qualitative research takes the moral responsibility for studying and presenting the suffering of others in a respectful and non-objectifying way.

The present thesis responds to the need for multimethod approaches in studies of youth suicide and other violent death, combining case-control quantitative studies and in-depth qualitative analysis of psychological autopsy interviews. According to my knowledge, no previous quantitative study has compared risk factors, stressful life events, and coping strategies in cases of youth suicide and cases of other forms of sudden violent death. The two quantitative studies combine a theory-neutral and empirically-driven, inductive approach with a theory-driven, deductive approach in order to explore and systematize the parents' tacit knowledge, and to make it more explicit. Parents' attempts to understand why their children killed themselves can hopefully help us to understand more about the unbearable suffering that leads some young people to take their own lives.

### **3 AIMS OF THE THESIS**

The overall aim of the present investigation was to explore the hypothesis (based on previous empirical data) that there are similar backgrounds to both death by suicide and to other forms of unexpected sudden violent death among children, adolescents and young adults. In the prospective longitudinal case-control design, consecutive cases of death by suicide and other forms of sudden violent death among youths up to the age of 25 were identified from forensic medicine autopsy protocols and police reports. Data collected in psychological autopsy interviews with parents and other relatives of the deceased were analyzed, applying both quantitative and qualitative approaches.

The specific research questions in study I were: Which risk factors were common to individuals who died by suicide and violent death, but did not apply to living individuals? Which risk factors were unique to the suicide group and to the other forms of sudden violent death group, and were not present in the control group? Which risk factors were significantly different for suicide and other forms of sudden violent death?

Study II aimed to examine similarities and differences in coping strategies common in three groups of young people corresponding to: suicides, other forms of sudden violent death, and control cases of young people in a community sample. Are possible differences in coping strategies between these groups to some degree accounted for (i.e., mediated) by differences in life events? Do associations between life events and coping strategies look different between (i.e. are they moderated by) these groups? Are there gender differences in this respect?

The starting point for the two qualitative studies was the assumption that giving voice to and making sense of parents' tacit experiences (Larkin, Watts, & Clifton, 2006; Polanyi, 1967, 1976; Polkinghorne, 1988) can generate codified and transferable conceptual knowledge that is highly relevant to the prevention and treatment of suicidal behavior.

The aim of study III was to build a tentative conceptual model of the process behind suicide in boys and young men grounded in their parents' attempts to understand and explain for themselves why their sons died by suicide.

Study IV widened the perspective and explored the parents' attempts to understand and explain to themselves why their daughter committed suicide. The aim was to build a generic conceptual model of the processes underlying youth suicide, grounded in the parents' perspective, and to compare girls' and boys' suicidal processes.

An overview of the aims and methods of the included studies is presented below in Table 1.

**Table 1.** Overview of aims, sample size, material, data analysis method, and methodological approach of the included studies.

	<b>Aim</b>	<b>n</b>	<b>Material</b>	<b>Data analysis</b>	<b>Methodology</b>
<b>Study I</b>	To compare risk factors for suicide and other sudden violent death among young people	63 cases of suicide, 62 cases of other sudden violent death, and 104 matched controls	436 interviews with next-of-kin	Stepwise multiple logistic regression analyses	Quantitative case-control study
<b>Study II</b>	To examine interactions between life events and coping strategies in three groups of young people	63 cases of suicide, 62 cases of other sudden violent death, and 104 matched controls	436 interviews with next-of-kin	Factor analysis, ANOVA, mediation analysis, moderator analysis	Quantitative case-control study
<b>Study III</b>	To build a tentative conceptual model of the process behind suicide among boys and young men, grounded in their parents' views	33 cases of boys' suicide	51 parental interviews	Grounded theory	Qualitative
<b>Study IV</b>	To build a generic conceptual model of the processes underlying youth suicide, grounded in the parents' perspective, and to compare girls' and boys' suicidal processes	33 cases of boys' suicide and 19 cases of girls' suicide	78 parental interviews	Grounded theory	Qualitative

## **4 METHOD**

### **4.1 Terminology**

The term “sudden violent death” usually includes death by suicide, accident, or homicide (Kristensen, Weisæth, & Heir, 2012). In the studies included in the present thesis, suicide is defined as “the act of deliberately killing oneself” (WHO, 2014a, p. 12), and other forms of sudden violent death as unintentional injury-related (that is, non-suicidal) death, which may still have occurred due to an underlying, hidden intention to die.

### **4.2 Power Analysis**

In order to compute the required sample size an a priori power analysis was conducted applying G\*Power (Faul et al., 2009). For a one-way ANOVA with three groups, 0.05 alpha level, effect size  $f = 0.25$  (medium effect size corresponding to Cohen’s  $d = 0.5$ ), and power 0.8, the required sample size per group is 53. With 60 persons per group, the achieved power will be 0.85.

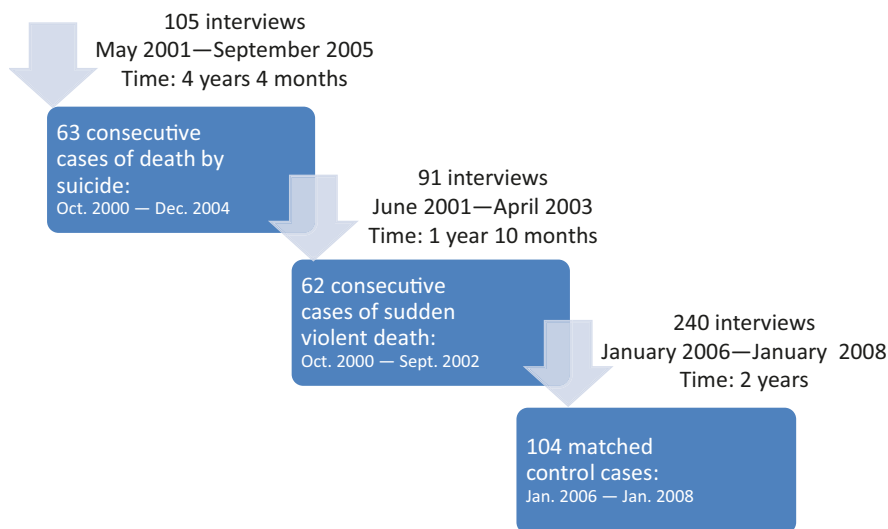
### **4.3 Setting, Procedures, and Data Collection**

The included studies are all based on data from the prospective longitudinal case-control investigation of suicide and other forms of sudden violent death (murder, accident, unclear accident) up to the age of 25 years in Stockholm County, Sweden. The project was approved by the Regional Ethical Review Board, Karolinska Institutet, Stockholm (reference number 96:204 and 2005/530-32), and all informants (parents and relatives of the deceased, as well as all participants in the control group and their parents) gave informed consent.

Consecutive cases of non-natural death among children, adolescents, and young adults (up to the age of 25 years) were identified at the Department of Forensic Medicine in Stockholm, which is responsible for all forensic autopsies in the Stockholm Region. Information on causes of death was based on autopsy protocols and police reports. The 75 consecutive cases of suicide were collected over a time period of four years and three months (from October 2000 through December 2004). The collection of 76 consecutive cases of other forms of sudden violent death took two years (from October 2000 through September 2002). Such a long time was required to achieve the target number of at least 60 cases in both groups ‘suicide’ and ‘sudden violent death.’

The overall design of the study is illustrated in Figure 2. About three months post-mortem, the author of this thesis sent a letter to family members asking for participation in the investigation, and then made a telephone call to make an appointment. In 63 cases of suicide and 62 cases of sudden violent death, the relatives wanted to participate in the investigation, whereas in nine cases of suicide and eight cases of sudden violent death the relatives declined participation, and no additional information was collected. In three further cases of suicide and six cases of sudden violent death the relatives were unreachable by letter and telephone. Thus, in the

suicide group the attrition was 12 cases (16%) and in the sudden violent death group the attrition was 14 cases (18%). (Two of the cases of suicide were originally assessed as accidents but following the interviews were reassessed as suicide, whereas one case originally assessed as suicide was reassessed as murder.) The 104 control cases were collected from the population registry in Stockholm County, using a randomized sample matched on two variables: gender and age. In all, 229 families took part in the study (among the control families, the individual young person was included).



**Figure 2.** Longitudinal prospective design: time axis of data collection.

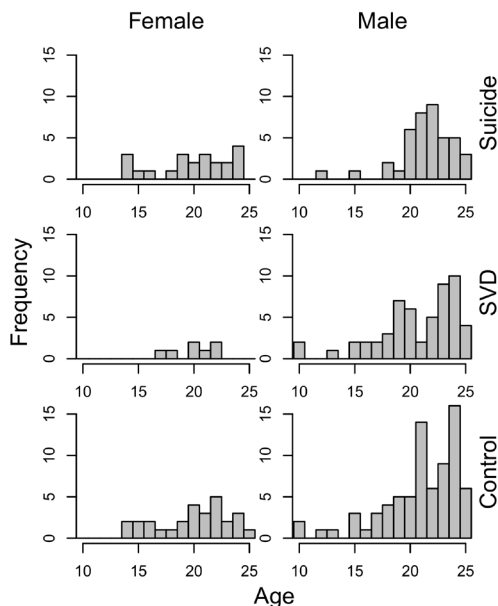
In the suicide group, the interviews were conducted three to 13 months postmortem ( $M = 5.55$ ;  $SD = 1.94$ ;  $Md = 5$ ) and in the sudden violent death group three to 16 months postmortem ( $M = 6.48$ ,  $SD = 2.62$ ;  $Md = 6$ ). In both these groups the relatives were interviewed from 2001 through 2005, and in the control cases from 2006 through 2008. At least one interview per case was performed (range 1–4; a total of 436 interviews), preferably with the parents of the dead person, and in the control group also with the young persons, but siblings and occasionally other relatives could replace a non-participating parent. Of the 105 interviews in the suicide group 48 were with the mother, 38 with the father, 13 with a sibling, four with other relatives, and two with a partner. There was one interview in 27 cases, two interviews in 31 cases, three interviews in four cases and four interviews in one case. In the sudden violent death group the 91 interviews included 49 with the mother, 32 with the father, eight with a sibling, one with another relative and one with a partner. There was one interview in 35 cases, two interviews in 26 cases and four interviews in one case. Of the 240 interviews in the control group 104 were with the subjects, 92 with mothers and 44 with fathers. There was one interview in one case (the young person only), two interviews (the subject and one parent) in 70 cases and three interviews (the subject and both parents) in 33 cases.



The total sample of 229 cases and 436 interviews was used in the two quantitative studies (I and II). In the two qualitative studies, subsamples of cases of suicide were studied. In the study of the parents' perspective on their sons' suicide (study III; Werbart Törnblom, Werbart, & Rydelius, 2013), 33 cases with at least one interview with a parent could be included. Thus, the material consisted of 28 interviews with the mothers and 23 interviews with the fathers, in all 51 interviews. Study IV (Werbart Törnblom, Werbart, & Rydelius, 2015) compared girls' and boys' suicidal processes, as seen from the parents' point of view. In addition to the above-mentioned interviews with the boys' parents, interviews with parents of 19 girls were included (16 interviews with the mothers and 11 interviews with the fathers). Thus, the total material consisted of 78 interviews.

#### 4.4 The Samples

Three samples are included. For age and gender distribution, see Figure 3. Of the 63 cases of suicide, 41 were males (65%) aged 12-25 years ( $M = 21.4$ ;  $SD = 2.5$ ;  $Md = 22$ ) and 22 females (35%) aged 14-24 years ( $M = 19.7$ ;  $SD = 3.3$ ;  $Md = 20.5$ ). Seven of the cases of suicide (11%) were younger than 18 years. Of the 62 cases of other forms of sudden violent death, 55 were males (89%) aged 10-25 years ( $M = 20.7$ ;  $SD = 3.7$ ;  $Md = 21$ ) and seven females (11%) aged 17-22 years ( $M = 20.0$ ;  $SD = 1.9$ ;  $Md = 20$ ). Ten of the cases of sudden violent death (16%) were younger than 18 years. The cases of sudden violent death included 55 accidents (50 [91%] males and five females) and seven cases of murder (five males [71%] and two females).



**Figure 3.** Age and gender distribution in the three samples: suicide, other forms of sudden violent death (SVD), and the control group.

Both target groups, taken together, included 125 cases of premature unnatural death; 96 males (77%) aged 10-25 years ( $M = 21.0$ ;  $SD = 3.2$ ;  $Md = 22$ ) and 29 females (23%) aged 14-24 years ( $M = 19.8$ ;  $SD = 3.0$ ;  $Md = 22$ ). This has to be compared with the 104 matched control cases, of which 76 were males (73%) aged 10-25 years ( $M = 20.7$ ;  $SD = 3.4$ ;  $Md = 21$ ) and 28 were females (27%) aged 14-24 years ( $M = 19.7$ ;  $SD = 3.0$ ;  $Md = 20$ ).

## 4.5 Interviews

The semi-structured interview protocol followed basic procedures for psychological autopsy studies, investigating the background of suicide, the person's state of mind, mental and physical health, personality characteristics, adverse life experiences, socioeconomic and educational background, and integration in the society (Beskow, Runeson, & Åsgård, 1991; Brent, 1989; Brent et al., 1988; Cavanagh et al., 2003; Hawton et al., 1998; Litman et al., 1963). The use of psychological autopsy interviews is a standard method in studies of death by suicide and sudden violent death, making it possible to collect both quantitative and qualitative data.

The interview questions covered the following areas: the informant's contacts with the child prior to death, anamnesis, sociodemographics (education, work, habitation, marital status, etc. of the deceased, siblings, and both parents), family relationships (three generations), the deceased's stressful life events and coping strategies, somatic and psychiatric symptoms, psychiatric contacts, symptoms of asocial behavior, delinquency, addiction, previous suicide attempts and suicidal communication. Open-ended questions allowed the participants to develop their own story, e.g.: "How have you tried to understand and explain to yourself why this death happened?" "Please give a description of your spouse and of your relationship." "Please give a description of the deceased and of your relationship, as compared to the siblings." In the control group, the interview protocol was adapted to fit living subjects and their relatives.

The author of this thesis (AWT) conducted tape-recorded interviews, lasting three to four hours per informant, at their home. All informants were interviewed separately so they would feel free to talk openly. In some families the participants insisted that they wanted to be interviewed with other relatives. In such cases, each informant had to give his or her own answers to all the questions. It is difficult to say if and to what extent their answers were influenced by the presence of the other family members, but it seems that they felt safer and more comfortable together. In the cases of suicide and other forms of sudden violent death, the mothers were interviewed first if the parents lived together. In the control group, the young person was interviewed first and was given the opportunity to reflect on whether they felt the questions they were asked by the interviewer would be okay to ask their parents as well. If the informants did not have Swedish as their native language an interpreter

was engaged. Other languages included Spanish, Russian, Turkish, and Farsi. No interview in the control group was conducted with an interpreter even though the participants sometimes did not have Swedish as their native language.

## 4.6 Instruments

For each case included in the analyses, multiple informants were used, when possible. For each quantitative interview item, the answers were weighed by the researcher, in an effort to cover the maximal amount of relevant information. Thus, the analysis units in quantitative analyses were the 229 cases in the three groups, and not the 436 interviews.

The interviews comprised criteria for the following psychiatric diagnoses according to DSM-IV-TR (American Psychiatric Association, 2000): Autistic Disorder (AD), Attention Deficit Hyperactivity Disorder (ADHD), Conduct Disorder (CD), Oppositional Defiant Disorder (ODD), depression spectrum disorder (Mood Disorder, Major Depressive Disorder, or Depressive Episode), Borderline Personality Disorder (BPD), and Antisocial Personality Disorder (APD). As the criteria for two further DSM-IV autism diagnoses (Asperger Syndrome and Pervasive Developmental Disorder Not Otherwise Specified) were not included in the interview protocol and only one subject in the sudden violent death group and one in the control group met the AD criteria (and four in the suicide group), we also checked for broader Autism Spectrum Disorder (ASD) according to DSM-5 (American Psychiatric Association, 2013). Based on these criteria, multiple diagnoses could be ascribed to each case.

The following measures were calculated for each subject, based on the items included in the interviews: Adverse Childhood Experiences (ACE), Social Readjustment Index (SRI), Life Event Index (LEI), and factor scores on the four factors obtained from factor analysis of Shortened Ways of Coping Questionnaire (WCQ). Together, these instruments covered both early and late adversities in life, as well as coping strategies when confronted with various forms of life stress.

ACEs are a concept that comes from the Centers for Disease Control and Prevention (CDC) Kaiser ACE Study (2019), originally reported in Felitti et al. (1998). The researchers found a strong association between childhood experiences of sexual or physical abuse and dysfunction in the family—and numerous risk factors for various causes of death in adults. Multiple subsequent studies showed overwhelming evidence for lasting consequences of early adversity and childhood trauma in the form of depression and other mental illness, chronic somatic diseases, violence and victimization, as well as social problems. For example, a person with an ACE score of four or more out of 10 has 460% increased probability of being depressed and 1,220% increased probability of attempting suicide than a person with an ACE score of 0 (Felitti, 2002). The 10 ACEs measured in studies I and II are identical

to those applied by Dube et al. (2003) and in most recent ACEs studies, namely: abuse variables (emotional and verbal abuse, physical abuse, sexual abuse), neglect variables (emotional neglect, physical neglect), and household dysfunction variables (battered mother [witnessing a mother being abused], household substance abuse, mental illness or depression in household, parental separation or divorce, incarcerated [imprisoned] household member). For each case, all ACEs were coded as 'no' or 'yes', based on the total available interview material.

Stressful life events in the previous year were assessed using all relevant interview information and scored following a modified non-adult version of the Holmes and Rahe Social Readjustment Rating Scale (SRRS; Holmes & Rahe, 1967). The non-adult version is based on the Adolescent Life Change Event Scale (ALCES; Yeaworth, McNamee, & Pozehl, 1992) and is available online (NA-SRRS, 2019). To the original 39 NA-SRRS items we added the following age-relevant items: imprisonment, exposure to violence, moving away from home, increase in arguments with parents or partner, economic difficulties, and starting or interrupting work or studies (Table 2). Each of the 45 items was ascribed a Life Change Unit (LCU; Rahe & Arthur, 1978) on a 100-point scale. The SRI is the sum of all LCU scores. Following Blasco-Fontecilla et al. (2012) we also calculated the LEI, which is simply the total number of stressful life events in the previous year for each case.

The interview protocol included the 24-item WCQ, one of the most frequently used coping scales (Kato, 2013). Originally, the Ways of Coping Checklist (Folkman & Lazarus, 1980) consisted of 68 items that described coping options that the respondent reported to use or not to use in specific stressful situations. A principal factor analysis with oblique rotation of the revised version of WCQ resulted in eight scales (Folkman & Lazarus, 1985, Folkman et al., 1986; Lazarus, 1993): (1) Confrontive Coping, (2) Distancing, (3) Self-Controlling, (4) Seeking Social Support, (5) Accepting Responsibility, (6) Escape-Avoidance, (7) Planful Problem-Solving, (8) Positive Reappraisal. This version was free to use and there are now several versions of WCQ with a varied number of items and different subscales. For example: factor analyses of the Canadian 24-item version of the WCQ (Pagani, Larocque, Vitaro, & Tremblay, 2003) revealed that four factors corresponded to the original version of the WCQ: Seeking Social Support, Escape-Avoidance, Positive Reappraisal, and Distancing. Factor analysis of the French 27-item version (Cousson-Gélie et al., 2010) gave three factors: Seeking Social Support, Self-Blamed Attribution and Avoidance, and Problem-Focused Coping. In the studies included in this thesis, each yes-no response to the 24-item WCQ in each case was based on an aggregated yes-no response from all responders (if more than one). The answers were binary rather than on a scale, and the questions were not situation-specific. Factor analysis of the WCQ responses in 229 cases gave a four-factor solution (presented in study II): (1) Planful Problem-Solving, (2) Escape-Avoidance, (3) Seeking Social Support, and (4) Confrontive Coping (aggressive-acting-out), roughly corresponding to half of the original scales and together explaining 54% of the variance in the material.

**Table 2.** Holmes and Rahe Stress Scale for Non-Adults. Adapted from Holmes & Rahe (1967). Additional items in *italics*.

Stressful life events the previous year		Life Change Units
1	Unwed pregnancy	100
2	Death of parent	100
3	Getting married	95
4	Divorce of parents	90
5	Acquiring a visible deformity	80
6	Fathering an unwed pregnancy	70
7	Jail sentence of parent for over one year	70
8	Marital separation of parents	69
9	Death of a brother or sister	68
10	Change in acceptance by peers	67
11	Pregnancy of unwed sister	64
12	Discovery of being an adopted child	63
13	Marriage of parent to stepparent	63
14	Death of a close friend (or a relative)	63
	<i>Imprisonment</i>	63
15	Having a visible congenital deformity	62
16	Serious illness requiring hospitalization	58
	<i>Exposure to violence</i>	58
17	Failure of a grade in school	56
18	Not making an extracurricular activity	55
19	Hospitalization of a parent	55
20	Jail sentence of parent for over 30 days	53
21	Breaking up with boyfriend or girlfriend	53
22	Beginning to date	51
23	Becoming involved with drugs or alcohol	50
24	Suspension from school	50
25	Birth of a brother or sister	50
	<i>Moving away from home</i>	50
26	Increase in arguments between parents	47
	<i>Increase in arguments with parents or partner</i>	47
	<i>Economic difficulties</i>	46
27	Loss of job by parent	46
28	Outstanding personal achievement	46
29	Change in parent's financial status	45
30	Accepted at college of choice	43
	<i>Starting or interrupting work or studies</i>	43
31	Being a senior in high school	42
32	Hospitalization of a sibling	41
33	Increased absence of parent from home	38
34	Brother or sister leaving home	37
35	Addition of third adult to family	34
36	Becoming a full-fledged member of a church	31
37	Decrease in arguments between parents	27
38	Decrease in arguments with parents	26
39	Mother or father beginning work	26

Two further composed variables were created. The Family Dysfunction Index is based on family anamnesis items (severe somatic disease, psychiatric contacts, substance abuse, depression, and suicidality in the family) and reports the number of ‘yes’ answers (ranging from 0 to 8). Another included index was the number of family problems during the subject’s childhood and adolescence (number of ‘yes’ answers, ranging from 0 to 10).

Furthermore, the interview protocol included two additional instruments, not included in the four studies in the present thesis: the Suicidal Intent Scale short version (SIS; Beck, Schuyler, & Herman, 1974) and, for rating of grief reactions, the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979).

## **4.7 Quantitative Data Analysis (studies I and II)**

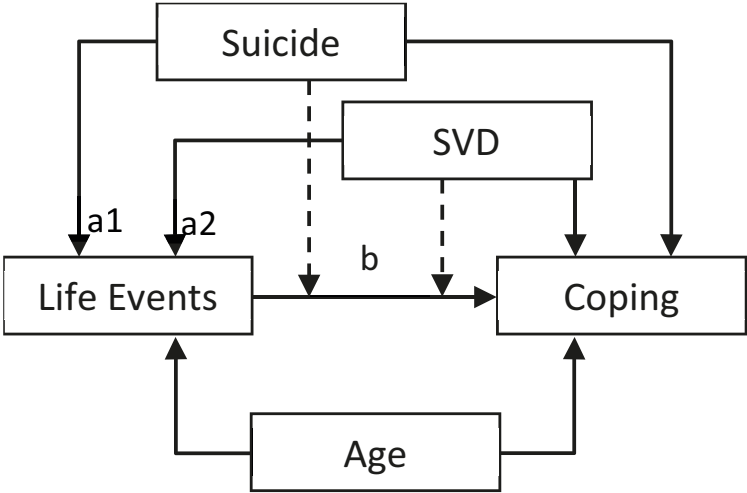
The presentation of quantitative data analysis is based on papers I and II. Study I is a case-control study comparing risk factors for suicide and other forms of sudden violent death among young people. The statistical analyses were based on all collected quantitative data and the 54 relevant variables were included in a predictor analysis. In all analyses, the dependent variable was nominal and tripartite: suicide, other forms of sudden violent death, and control cases. To facilitate the identification of potential predictors for the final analysis, the univariate effects of the potential risk factors on the dependent variable were tested separately for cases of suicide versus control cases and cases of other forms of sudden violent death versus control cases, using logistic regression. Between-groups differences on included variables derived from logistic regression were reported as odds ratios (ORs), which are estimates of the adjusted rates of each variable in the suicide and the sudden violent death group relative to the adjusted rates of corresponding variable in the control group. To correct for the number of comparisons, the alpha level was set at  $p < 0.025$ . As the three groups had analogous age distribution and there were no significant between-group age differences, age was not controlled for. In order to detect unique predictors of suicide and other sudden violent deaths, two stepwise multiple logistic regression analyses were conducted on the predictors with a significant univariate effect. Variables contributing to an improved predictive capacity, as indicated by a decrease in the Akaike Information Criterion (AIC), and having a significant unique association with the outcome, were retained in the final models. Analyses were conducted with R 3.5.2 statistical software (R Core Team, 2018) employing the *lmtest* package (Zeileis & Hothorn, 2002).

Study II examines interactions between life events and coping strategies in three groups of young people, corresponding to: cases of suicide, other forms of sudden violent death, and control cases. As a first step, we performed factor analysis with oblimin rotation of the 229 responses to the 24 WCQ items. A four-factor

solution gave four dimensions, roughly corresponding to half of the original scales and explaining 54.2% of the variance: (1) Planful Problem-Solving, (2) Escape-Avoidance, (3) Seeking Social Support, and (4) Confrontive Coping (aggressive-acting-out). In the next step, a factor score was calculated for each case. An ANOVA and a Tukey HSD post-hoc test were used for testing between-group differences in coping.

Twelve separate mediation analyses were conducted with membership in the three groups as the independent variable, one of the four coping strategies as the dependent variable, and one of the three life events measures as a mediator (Figure 4). The effects were adjusted for age and studied for the full sample as well as separately for males and females. In study II the aim was to determine whether life events can, to some degree, account for differences in coping strategies between the three groups, i.e., we do not make any causal claims. The standard error and p-value of the mediated effects were calculated through 5,000 bootstrapped subsamples.

We also analyzed whether the associations between life events and coping strategies (12 different combinations) varied in strength between, i.e., were moderated by, the three groups (Figure 4), by applying regression models to the data, including a group  $\times$  life events interaction term. Also here the effects were adjusted for age and analyzed for the full sample as well as separately for males and females.



**Figure 4.** Illustration of the conducted mediation analyses with the control group as a reference. For suicide vs. control the size of the indirect/mediated effect equals  $a1 \times b$  and for sudden violent death (SVD) vs. control it equals  $a2 \times b$ . The moderated effects are illustrated with dashed arrows.

## 4.8 Qualitative Data Analysis (studies III and IV)

Study III was based on 51 interviews with parents in 33 cases of suicide among boys and young men (aged 12–25). In study IV, this material was compared to 27 interviews in 19 cases of suicide among girls and young women (aged 14–24), thus encompassing 52 cases of youth suicide and 78 interviews.

The presentation of qualitative data analysis is based on papers III and IV. With the aim of capturing the parents' "tacit knowledge" (Polkinghorne, 1988) and making it available for future prevention and treatment programs, an inductive and discovery-oriented approach—in particular, Grounded Theory (GT)—was considered the method of choice (Charmaz, 2014; Rennie, 2001, 2006; Strauss & Corbin, 1998). Most of the previous qualitative studies focus on suicidal behavior or on the consequences of suicide for the surviving family members, rather than death by suicide. Most psychological autopsy studies are quantitative in design and attempt to identify psychosocial and psychiatric predictors of suicide. Studying the parents' attempts to understand and explain for themselves why their sons or daughters died by suicide can enrich our knowledge beyond these limits. In GT, the researcher applies a method of constant comparison of data in order to discover similar latent patterns in several interviews, and to identify what stands out as important. In this way, theoretical concepts are generated from the data and related to each other as a theoretical explanation of the main concern of the participants in focus for investigation, while at the same time the conceptual model is grounded in data.

For analysis of interview transcripts, a Computer-Assisted Qualitative Data Analysis Software (CAQDAS; Lewins & Silver, 2007) was applied. ATLAS.ti (2000) is a software package that retains links between transcripts, codes, categories and memos, permitting movement back and forth between coding, category elaboration and conceptual model building. Transcripts of interviews were imported into ATLAS.ti, and all utterances relating to parents' attempts to understand and explain the suicide were assigned open codes summarizing the content. The networking function of ATLAS.ti was used to group closely related codes into categories, labeled using the informants' own words. This open coding was performed in two steps. In study III, the maternal interviews were coded first, whereupon the paternal interviews were imported, and the emerging categories were examined and modified. In study IV, the categories that emerged in study III of parents' perspective on their sons' suicide were examined against interviews with parents of girls who died in suicide, and were then revised accordingly.

As distinct categories emerged, the relationships among categories were re-examined for latent patterns in several interview transcripts (axial coding). In the procedure of constant, comparative analysis, new data were compared with existing data until saturation was reached, i.e., no new categories (code families) emerged.



During selective coding, an emerging conceptual model was integrated and refined. Graphical representations were compiled to further explore relations among the categories. A *core category* emerged early in the data analysis capturing the essence of the suicidal process. Finally, the tentative conceptual model of processes underlying boys' suicide was assembled in study III (Werbart Törnblom et al., 2013).

In study IV (Werbart Törnblom et al., 2015), the previously constructed model was tested, refined and integrated to elucidate the processes underlying girls' suicide and to capture gender differences in this respect. The categories were graphically connected into tentative diagrams to visually depict and examine their relationships. This step of the qualitative analysis allowed us to confirm the *core category*, previously found in study III, and to capture, on a meta-level, the essence of the suicidal process in youths, as viewed from the parents' perspective, while retaining a relationship to all other categories. Finally, the generic conceptual model of both boys' and girls' suicidal process was assembled and presented in a final figure.

The standards for qualitative inquiry include the researcher striving for reflexivity (Bott, 2010; Charmaz, 2014; Elliot, Fischer, & Rennie, 1999; Finlay, 2003; Malterud, 2001; Morrow, 2005; Mortari, 2015; Rennie, 2001), i.e. through the hermeneutic revisiting of data and the evolving comprehension of it, paying attention to the effect of the researcher's background, position, preconceptions and values that might influence the investigation. This involved "bracketing" theoretical knowledge and presumptions (for example, that the families in the suicide group communicated insufficiently), and holding the emerging insight in abeyance, being open to how each new finding might change an earlier understanding (cf., Fischer, 2009).

The main coding was carried out by the author of this thesis, a middle-aged female psychologist and doctoral student, with extensive experience of professional work in psychiatric inpatient and outpatient services. During selective coding the second author of studies III and IV, a senior male psychoanalyst and researcher, reviewed all codes and theoretical memos and collaborated in refining the model. Differences in opinions were discussed in relation to the original transcripts until agreement was reached. On the basis of these audits, the model was deemed grounded. As an additional credibility check, parents of six boys read the manuscript of study III. Their comments resulted in some minor changes in the descriptions of the categories and confirmed the general outline of the conceptual model. Furthermore, the frequencies of categories were reported separately for mothers and fathers of girls and boys using nomenclature from Hill et al. (2005), following criteria for larger samples (Knox et al., 2006): *General*:  $\geq 90\%$  of the cases; *Typical*:  $\geq 50\%$  to  $< 90\%$ ; *Variant*:  $\geq 20\%$  to  $< 50\%$ ; *Rare*:  $< 20\%$ .

## **4.9 A Note on Methodological Pluralism**

Understanding suicide and sudden violent death among young people is a challenging task, demanding a multidisciplinary approach. In the present thesis, studies I and II are based on statistical analyses of quantitative data collected in psychological autopsy interviews, and studies III and IV are based on qualitative, grounded theory analysis of parents' narratives. Thus, the thesis is based on both stories and numbers (Pluye & Hong, 2014). Currently, in the health sciences and clinical research it has become more usual to combine quantitative and qualitative methods in different mixed methods designs (Creswell & Creswell 2018; Creswell & Clark, 2017; Curry et al., 2003; Johnson & Onwuegbuzie, 2004; O'Cathain, 2009; O'Cathain, Murphy, & Nicholl, 2007; Östlund, Kidd, Wengström, & Rowa-Dewar, 2011; Tariq & Woodman, 2013; Tashakkori & Teddlie, 2010).

### **4.9.1 Definitions**

Central for the different definitions of mixed methods research is combining quantitative and qualitative methods in the same study or a sequence of related studies (Tariq & Woodman, 2013). The aim is to address complex research questions and to generate converging findings when studying multifaceted phenomena (Lingard, Albert, & Levinson, 2008). To be regarded as mixed methods research, all three of the following conditions have to be satisfied: "(a) at least one qualitative method ... and one quantitative method ... are combined; (b) each method is used rigorously; and (c) the data collections, and/or data analyses, and/or results are integrated" (Pluye & Hong, 2014, p. 32). Below are some examples of well-established general definitions of mixed methods:

Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration. (Johnson, Onwuegbuzie, & Turner, 2007, p. 123)

Mixed methods research is a research approach in which a researcher or team of researchers integrates (a) qualitative and quantitative research questions, (b) qualitative research methods and quantitative research designs, (c) techniques for collecting and analyzing qualitative and quantitative data, and (d) qualitative findings and quantitative results. Mixed methods are used to combine the strengths of, and to compensate for, the limitations of quantitative and qualitative methods. (Pluye & Hong, 2014, p. 30)

Mixed methods research is an approach to inquiry involving collecting both qualitative and quantitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. The core assumption of this form of inquiry is that the integration of qualitative and quantitative data yields additional insight beyond the information provided by either the qualitative or the quantitative data alone. (Creswell, J. W., & Creswell, 2018, p. 4)

#### **4.9.2 Opposite paradigms or complementary approaches?**

According to one worldview and view of research (represented in the mixed methods debate, among others, by Sale, Lohfeld, & Brazil, 2002), quantitative and qualitative studies are two distinct methodological approaches, based on competing epistemological paradigms and incompatible ontologies. Quantitative research is anchored in positivism or post-positivism, whereas qualitative research is based on interpretivism, hermeneutics and constructivism. The object of quantitative research is the objective reality existing independent of human perception, whereas qualitative research is concerned with how people make sense of their lived experiences. According to the quantitative paradigm, the researcher and the investigated object are independent entities, whereas they are interactively linked according to the qualitative paradigm. Thus, according to the authors, quantitative and qualitative methods do not investigate the same phenomena: “lived experiences” and “measures” are distinct and incomparable entities. However, the solution the authors offer is that they can be combined for complementary purposes. Qualitative and quantitative methods can be applied simultaneously or sequentially in a single study or series of investigations, seeking complementarity.

In contrast to the thesis of incompatible paradigms, Johnson and Onwuegbuzie (2004) represent the position focusing on commonalities between quantitative and qualitative methodologies, such as collection of empirical data, independent sources of evidence, safeguarding against different forms of bias, and, in social sciences, attempting to provide warranted assertions about human beings. They advocate for anchoring mixed methods research in methodological pluralism and in the philosophy of pragmatism. In a later article, the authors regarded mixed methods research as the third methodological paradigm, positioned between qualitative and quantitative methodology, and based on pragmatism (Johnson, Onwuegbuzie, & Turner, 2007). According to Feilzer (2010), mixed methods research entails conducting research pragmatically. Mixing quantitative and qualitative approaches can be justified by the epistemology of pragmatism. Pragmatism aims to generate useful knowledge, beyond the dualism of objective (positivism) or relative, subjective (hermeneutics, constructivism) truth. Similarly, Creswell and Creswell (2018) regard quantitative and qualitative approaches as different ends on a continuum, rather than polar opposites, and they see mixed methods research as situated in-between these poles.

### 4.9.3 Different designs

Different research questions and aims determine the choice of mixed methods design, such as convergent (parallel, concurrent) designs, explanatory sequential or exploratory sequential designs, embedded (nested) designs, or multiphase designs (Creswell, Klassen, Plano Clark, & Smith, 2011). Sometimes, the typology of mixed methods research is limited to three designs: convergent, sequential exploratory, and sequential explanatory (Fetters, Curry, & Creswell, 2013; Pluye & Hong, 2014).

On a more general level, two types of mixed methods research have been described (Johnson, Onwuegbuzie, & Turner, 2007): applying both qualitative and quantitative methods within a particular *study*, or within a research *program* comprising of a sequence of studies. An example of a mixed methods study is a dissertation exploring the process and organizational consequences of new artifact adoption in surgery in five Australian hospitals (Johnstone, 2004). In contrast, the present thesis can be regarded as a mixed methods program. The interview data were analyzed both qualitatively and quantitatively in distinct steps. Qualitative analysis generated a comprehensive tentative model of processes leading to suicide, whereas quantitative analysis focused on sets of risk factors and their interplay. Thus, different methods were applied for studying different facets of the same phenomena. A more cautious description of such a double-track approach is to regard it as a multimethod investigation.

### 4.10 Ethical Considerations

All procedures involved in this investigation conform to the Helsinki Declaration of 1975, as revised in 2008. The project was approved by the Regional Ethical Review Board, Karolinska Institutet, Stockholm (reference number 96:204 and 2005/530-32), and all informants (parents and relatives of the deceased, as well as all participants in the control group and their parents) gave informed consent. In studies III and IV, particular attention was paid to preserving the participants' anonymity and confidentiality when selecting and presenting direct quotations from the interviews.

Interviewing close relatives who have lost a young person to suicide, accident, homicide, or overdose demands especial consideration from the interviewer. The researcher has to listen attentively, being empathetic and sympathizing with the informants' feelings and experiences, while still maintaining his/her neutrality, keeping equidistant to each family member, and conveying his/her unconditional curiosity and positive regard. The researcher has to leave enough time and space for the informant to reflect upon the questions asked and to elaborate the answers. The researcher has to adjust to and keep pace with the informant, being attentive to how the informant perceives the questions and striving to create an atmosphere of safety and confidentiality where everything can be talked about.

## 5 RESULTS

### 5.1 An Overview of the Three Samples

For the sociodemographic characteristics of the three samples and descriptive statistics (psychosocial and psychiatric data) see Table 3. Looking at the gender distribution, it is striking that there are twice as many males as females in the suicide group and eight times as many males as females in the other forms of sudden violent death group.

**Table 3.** Sociodemographic, psychosocial and psychiatric data for the three samples. (Reproduced from study I)

	Suicide		Sudden violent death		Control cases	
	<i>M</i> (range)	<i>SD</i>	<i>M</i> (range)	<i>SD</i>	<i>M</i> (range)	<i>SD</i>
Age	20.9 (12–25)	3.0	20.6 (10–25)	3.5	20.7 (10–25)	3.4
Mother's age at the child's birth	29.7 (16–42)	5.8	27.1 (17–39)	5.5	28.9 (18–43)	5.2
Father's age at the child's birth	33.0 (19–54)	6.9	29.7 (19–40)	6.0	31.7 (20–49)	6.3
	<i>N</i> = 63	%	<i>N</i> = 62	%	<i>N</i> = 104	%
Gender						
Male	41	65.1	55	88.7	76	73.1
Female	22	34.9	7	11.3	28	26.9
Parents' latest marital status						
Separated or divorced	38	60.3	37	59.7	46	44.2
Married or cohabitant	13	20.6	22	35.5	49	47.1
Dead mother	3	4.8	1	1.6	2	1.9
Dead father	7	11.1	2	3.2	7	6.7
Dead both parents	2	3.2	0	0.0	0	0.0
Latest habitation						
With parent(s)	30	47.6	31	50.0	47	45.2
With partner	7	11.1	8	12.9	22	21.2
With friends	5	7.9	4	6.5	3	2.9
Alone	18	28.6	15	24.2	31	29.8
Psychiatric care	3	4.8	2	3.2	1	1.0
Homeless	0	0.0	2	3.2	0	0.0
Latest marital status						
Single	58	92.1	53	85.5	84	80.8
Cohabitant	5	7.9	9	14.5	19	18.3
Married	0	0.0	0	0.0	1	1.0
Own children( yes)	2	3.2	6	9.7	3	2.9
Stepparents (yes)	20	31.7	10	16.1	35	33.7
Adopted (yes)	1	1.6	2	3.2	4	3.8
Birth order						
Only child	7	11.1	4	6.5	7	6.7
First born	16	25.4	20	32.3	48	46.2
Middle child	16	25.4	18	29.0	20	19.2
Youngest	24	38.1	20	32.3	29	27.9

	Suicide		Sudden violent death		Control cases	
	N = 63	%	N = 62	%	N = 104	%
Country of birth						
Sweden	54	85.7	51	82.3	98	94.2
Other European country	1	1.6	3	4.8	1	1.0
Non-European country	8	12.7	8	12.9	5	4.8
Mother born in Sweden	47	74.6	37	59.7	87	83.7
Mother other European	6	9.5	16	25.8	9	8.7
Mother non-European	10	15.9	9	14.5	8	7.7
Father born in Sweden	42	66.7	39	62.9	88	84.6
Father other European	9	14.3	12	19.4	9	8.7
Father non-European	12	19.0	11	17.7	7	6.7
Education						
Compulsory school or less	33	52.4	38	61.3	27	26.0
Upper secondary school	21	33.3	19	30.6	37	35.6
Post-secondary or university	6	9.5	5	8.1	35	33.7
University degree	3	4.8	0	0.0	5	4.8
Mother's education						
Compulsory school or less	11	17.5	12 <sup>1</sup>	19.7	10	9.6
Upper secondary school	18	28.6	27 <sup>1</sup>	44.3	33	31.7
Post-secondary or university	8	12.7	10 <sup>1</sup>	16.4	12	11.5
University degree	26	41.3	12 <sup>1</sup>	19.7	49	47.1
Father's education						
Compulsory school or less	22	34.9	16 <sup>1</sup>	26.2	19	18.3
Upper secondary school	12	19.0	19 <sup>1</sup>	31.1	28	26.9
Post-secondary or university	6	9.5	6 <sup>1</sup>	9.8	18	17.3
University degree	23	36.5	20 <sup>1</sup>	32.8	39	37.5
Occupation						
Work	19	30.2	22	35.5	40	38.5
Student	14	22.2	19	30.6	39	37.5
Work and student	6	9.5	2	3.2	18	17.3
Sick-listed	9	14.3	2	3.2	1	1.0
Unemployed	15	23.8	17	27.4	6	5.8
Mother's occupation						
Work	57	90.5	52	83.9	99	95.2
Student	0	0.0	0	0.0	1	1.0
Work and student	1	1.6	0	0.0	0	0.0
Sick-listed	1	1.6	7	11.3	2	1.9
Unemployed	2	3.2	0	0.0	1	1.0
Retired	0	0.0	1	1.6	0	0.0
Housewife	2	3.2	2	3.2	1	1.0
Father's occupation						
Work	57 <sup>2</sup>	91.9	56	90.3	103	99.0
Sick-listed	3 <sup>2</sup>	4.8	3	4.8	0	0.0
Unemployed	1 <sup>2</sup>	1.6	2	3.2	1	1.0
Retired	1 <sup>2</sup>	1.6	1	1.6	0	0.0
Criminality						
None	27	42.9	13	21.0	48	46.2
Yes without sanction	18	28.6	13	21.0	40	38.5
Sentenced or investigated	18	28.6	36	58.1	16	15.4
Father's criminality						
None	60	95.2	59	95.2	103	99.0
Sentenced or investigated	3	4.8	3	4.8	1	1.0

	Suicide		Sudden violent death		Control cases	
	N = 63	%	N = 62	%	N = 104	%
Addiction						
None	32	50.8	36	58.1	97	93.3
Alcohol	11	17.5	8	12.9	3	2.9
Substance	20	31.7	21	33.9	5	4.8
Anabolic steroids	6	9.5	9	14.5	0	0.0
Psychoactive drugs	6	9.5	20	32.3	1	1.0
Addiction at the time of death	37 <sup>1</sup>	60.7	26 <sup>1</sup>	42.6		
Mother's addiction						
None	60	95.2	57	91.9	100	96.2
Alcohol	2	3.2	3	4.8	4	3.8
Substance	2	3.2	2	3.2	0	0.0
Psychoactive drugs	0	0.0	2	3.2	0	0.0
Father's addiction						
None	43	68.3	46	74.2	91	87.5
Alcohol	17	27.0	15	24.2	12	11.5
Substance	4	6.3	5	8.1	4	3.8
Psychoactive drugs	0	0.0	1	1.6	0	0.0
Psychiatric care						
None	18	28.6	26	41.9	55	52.9
Outpatient <18 years	28	44.4	30	48.4	42	40.4
Inpatient <18 years	6	9.5	8	12.9	1	1.0
Outpatient >18 years	35	55.6	17	27.4	20	19.2
Inpatient > 18 years	25	39.7	11	17.7	2	1.9
Treatment unit youth	9	14.3	12	19.4	2	1.9
Foster-home placement	4	6.3	6	9.7	3	2.9
Mother's psychiatric care						
None	51	81.0	49	79.0	76	73.1
Outpatient >18 years	10	15.9	12	19.4	28	26.9
Inpatient > 18 years	2	3.2	1	1.6	2	1.9
Father's psychiatric care						
None	48	76.2	54	87.1	90	86.5
Outpatient >18 years	13	20.6	7	11.3	12	11.5
Inpatient > 18 years	4	6.3	2	3.2	5	4.8
Autism spectrum disorder (ASD)	11	17.5	3	4.8	7	6.7
Autistic disorder (AD)	4	6.3	1	1.6	1	1.0
Attention def. hyperactivity dis. (ADHD)	13	20.6	19	30.6	19 <sup>3</sup>	18.4
Conduct disorder (CD)	9	14.3	19	30.6	17 <sup>3</sup>	16.5
Oppositional defiant disorder (ODD)	13	20.6	12	19.4	15 <sup>3</sup>	14.6
Borderline personality disorder (BPD)	25 <sup>4</sup>	43.9	21 <sup>5</sup>	40.4	5 <sup>6</sup>	5.8
Depression spectrum disorder	42	66.7	22	35.5	40 <sup>3</sup>	38.8
Antisocial personality disorder (APD)	7 <sup>4</sup>	12.3	19 <sup>5</sup>	36.5	4 <sup>6</sup>	4.7
Being bullied	28	44.4	15	24.2	54	51.9
Being sexually assaulted	13	20.6	1	1.6	4	3.8
Suicide attempt among relatives	20	31.7	18	29.0	38	36.5
Death by suicide among relatives	22	34.9	11	17.7	30	28.8

**Note.** <sup>1</sup> N = 61 owing to missing data; <sup>2</sup> N = 62 owing to missing data; <sup>3</sup> N = 103 due to missing data; <sup>4</sup> N = 57 age >18 years; <sup>5</sup> N = 52 age >18 years; <sup>6</sup> N = 86 age >18 years

Previous suicide attempts, suicide methods and cause of sudden violent death are presented in Table 4. Almost half of those who died in suicide had no previous suicide attempt; none of the females and only 11% of the males attempted suicide in the sudden violent death group. Hanging was the most common suicide method among both sexes, and is also the most prevalent method in Europe, in contrast to the US, where the use of firearms is the most common method of suicide for both men and women. Traffic accidents were the most common cause of sudden violent death for both sexes, followed by medication (abuse of psychoactive drugs) and overdose among boys.

**Table 4.** Suicide attempts, suicide methods, and cause of sudden violent death. (Reproduced from study I)

Suicide	Women		Men		Total	
	N=22	%	N=41	%	N=63	%
No previous attempt	10	45.5	21	51.2	31	49.2
Single suicide attempt	6	27.3	11	26.8	17	27.0
Multiple attempts	6	27.3	9	22.0	15	23.8
Physical methods	17	77.3	34	82.9	51	81.0
Hanging	8	36.4	11	26.8	19	30.2
Railway tracks	4	18.2	9	22.0	13	20.6
Drowning	3	13.6	0	0.0	3	4.8
Jumping	1	4.5	7	17.1	8	12.7
Firearms	1	4.5	3	7.3	4	6.3
Knife	0	0.0	2	4.9	2	3.2
Suffocation	0	0.0	1	2.4	1	1.6
Single-car crash	0	0.0	1	2.4	1	1.6
Chemical methods	5	22.7	7	17.1	12	19.0
Medication	4	18.2	4	9.8	8	12.7
Drug overdose	1	4.5	2	4.9	3	4.8
Gas	0	0.0	1	2.4	1	1.6
Sudden Violent Death	Women		Men		Total	
	N=7	%	N=55	%	N=62	%
No previous attempt	7	100.0	49	89.1	56	90.3
Single suicide attempt	0	0.0	3	5.5	3	4.8
Multiple attempts	0	0.0	3	5.5	3	4.8
Homicide	2	28.6	5	9.1	7	11.3
Traffic accident	3	42.9	22	40.0	25	40.3
Fire	1	14.3	2	3.6	3	4.8
Drowning	0	0.0	2	3.6	2	3.2
Work accident	0	0.0	2	3.6	2	3.2
Medication	1	14.3	10	18.2	11	17.7
Overdose	0	0.0	11	20.0	11	17.7
Fire arms accident	0	0.0	1	1.8	1	1.6
Control Group	Women		Men		Total	
	N=28	%	N=76	%	N=104	%
No suicide attempt	23	82.1	73	96.1	96	92.3
Single suicide attempt	4	14.3	3	3.9	7	6.7
Multiple attempts	1	3.6	0	0.0	1	1.0



## **5.2 STUDY I. Who is at risk of dying young from suicide and sudden violent death? Common and specific risk factors among children, adolescents and young adults**

Suicides and other forms of sudden violent deaths are the most common causes of death among young people worldwide. This case-control study compared risk factors for suicide and other forms of sudden violent death among people aged 10–25 years.

The aim of study I was to answer the following research questions: Which specific risk factors were common for individuals who died by suicide and violent death, but did not apply to living individuals? Which risk factors were unique to the suicide group and to the other forms of sudden violent death group, and were not present in the control group?

Psychological autopsy interviews with next-of-kin were performed. The samples included 63 cases of suicide, 62 cases of other forms of sudden violent death, and 104 matched living controls from the general population. As a first step, the univariate effects of the potential risk factors on the dependent variable were tested separately for cases of suicide vs. control cases and cases of sudden violent death vs. control cases, using logistic regression. In the final analysis, two stepwise multiple logistic regression analyses were performed to identify unique predictors of suicide and other forms of sudden violent death.

### **5.2.1 Univariate effects**

Looking at the risk factors for suicide and sudden violent death, identified in the univariate analysis, we found both similarities and significant differences. Common risk factors, in comparison with the controls, included lower upper secondary school results, lower attained educational level, lower odds of having a meaningful occupation (studies or work), alcohol and substance abuse, and admission to inpatient adult psychiatric care and to a treatment unit for young people engaging in substance abuse or criminality. Both groups also had higher odds of having been exposed to adverse childhood experiences and more severely stressful life events as well as a higher number of stressful life events in the previous year.

Borderline personality disorder was associated with both causes of death; depression spectrum disorder was associated with death by suicide, whereas antisocial personality disorder was associated with sudden violent death. Accordingly, being investigated or sentenced for criminal acts was more common among cases of sudden violent death than among the controls. Noticeably, being bullied was negatively associated with belonging to the sudden violent death group rather than the control group, whereas being sexually assaulted was positively associated with belonging to the suicide group rather than the control group.

In comparison with the control cases, distinguishing risk factors for belonging to the suicide group included father's addiction, having contact with psychiatric care, being a psychiatric outpatient, having depression, and having been sexually assaulted. Distinguishing risk factors for belonging to the other forms of sudden violent death group included being a man, being investigated or sentenced, and having antisocial personality disorder. Furthermore, we found negative associations between belonging to the sudden violent death group and having elementary school results above average, having upper secondary school education, as well as the mother having a university degree. Living in a steady relationship seemed to be a protective factor against suicide, whereas being a man was a risk factor for sudden violent death.

### **5.2.2 Multivariate effects**

Analysis of multivariate effects of the potential risk factors indicated that the number of stressful life events in the previous year was the only common risk factor for both suicide and other forms of sudden violent death. Risk factors for suicide included addiction and being an inpatient in adult psychiatric care. Risk factors for sudden violent death included having poorer elementary school results, lower education level, and abuse of psychoactive drugs. Surprisingly, compared to the controls, the sudden violent death group had a lower Family Dysfunction Index and lower odds of being bullied.

### **5.2.3 Conclusions**

To sum up, the suicide group seems to have been both more vulnerable and exposed to different kinds of stressors, whereas the sudden violent death group seems to have been more prone to acting out and risk-taking. On the univariate level, we found associations between internalizing psychopathology and suicide (depression spectrum disorders), and between externalizing psychopathology and sudden violent death (antisocial personality disorder). However, addiction (externalizing) and borderline personality disorder (mixed internalizing and externalizing psychopathology) were associated with both causes of death. Thus, we can speculate that mixed psychopathology represents what is common for suicide and sudden violent death, whereas a predominance of internalizing psychopathology represents what is specific for cases of suicide, and a predominance of externalizing psychopathology represents what is specific for cases of sudden violent death.

The pattern of psychosocial factors, developmental disturbances and strains in life was partly similar, partly different in cases of suicide and of sudden violent death, but for both groups was significantly different from the control cases. This can pose a serious challenge to professionals and providers of health and social services. Consequently, there is an urgent need for in-depth research into the mechanisms

of destructive and self-destructive behavior, bridging the gap between empirical studies and clinical and social practice. Not only suicide, but also other forms of sudden violent death in youths must be the subject of prevention and intervention programs. The greatest challenge for society is to take adequate action to assist those who never dare to seek professional help before dying by suicide or sudden violent death (29% and 42%, respectively, in study I).

### **5.3 STUDY II: Life events and coping strategies among young people who died by suicide or sudden violent death: Mediators and moderators**

Nowadays, we have solid, empirically supported knowledge of risk factors for death by suicide among adolescents and young adults, generated by both psychological autopsy studies and epidemiological register studies. We know much less about the risk factors for other forms of unnatural sudden death, such as accidents, homicide, or deaths from undetermined causes that might be a consequence of destructive and self-destructive behavior. Furthermore, most studies of suicide focus either on vulnerability factors and coping deficits or on the perceived situational stress. The interaction between coping deficits and life stressors, even if theoretically acknowledged, has been less explored. The aim of study II was to examine interactions between life events and coping strategies in three groups of young people: cases of suicide, cases of other forms of sudden violent death, and control cases. Are possible differences in coping strategies between these groups to some degree accounted for (i.e., mediated) by differences in life events? Do associations between life events and coping strategies look different between (i.e. are they moderated by) these groups?

The procedures, subjects and instruments were the same as in study I. In addition, factor analysis with oblimin rotation of the 229 responses to the 24-item Shortened Ways of Coping Questionnaire (WCQ) was performed. To answer the research questions, 12 mediation analyses and 12 moderator analyses, were conducted. The effects were adjusted for age and analyzed for the full sample as well as separately for males and females in each group.

#### **5.3.1 Coping strategies**

Four coping strategies, two more adaptive and two less adaptive, were identified. Distinctive of the suicide and the sudden violent death group was significantly less Planful Problem-Solving, and more Escape-Avoidance and Confrontive Coping than among the controls. Planful Problem-Solving had the highest level in the control group, whereas Escape-Avoidance had the highest level in the suicide group, and Confrontive Coping had the highest level in the sudden violent death group.

The two maladaptive coping strategies were positively correlated with each other. However, Escape-Avoidance corresponds to internalizing disorders and ways of coping, and Confrontive Coping to externalizing disorders and ways of coping. A new finding was that the suicide group had significantly less Planful Problem-Solving even in comparison with the sudden violent death group. Surprisingly, no significant between-group differences were found in Seeking Social Support.

### **5.3.2 Life events**

Both target groups experienced significantly more adverse childhood experiences and recent stressful life events than the controls—the suicide group being more exposed to stressful life events in the previous year even in comparison with the sudden violent death group. Furthermore, we found higher levels of stressful life events among females than males for all measures and in all groups, except for adverse childhood experiences in the sudden violent death group.

### **5.3.3 Mediators and moderators**

Mediator analyses showed that differences between both of the target groups and controls in Escape-Avoidance were partly accounted for by differences in negative life events, early and late in life, and differences in Confrontive Coping were accounted for by differences in recent stressful life experiences, whereas differences in Planful Problem-Solving were accounted for by differences in adverse childhood experiences.

Moderator analysis showed that common to the suicide and the sudden violent death groups was a stronger association between recent stressful life events and Confrontive Coping than in the control group. Distinctive of the sudden violent group was a stronger association between adverse childhood experiences and Escape-Avoidance than among the controls.

We found a weak positive correlation between age and both Planful Problem-Solving and Confrontive Coping. This might suggest maturational processes in adolescence and emerging adulthood, and an increase in both adaptive coping and maladaptive coping. With a reservation for low power in gender-specific between-group comparisons, we found several differences in coping strategies between women and men. Looking at the mean scores on the four coping factors, women in the suicide group had higher scores than men for both Seeking Social Support and Confrontive Coping. In the sudden violent death group, women had higher scores for Planful Problem-Solving than men but lower scores for Seeking Social Support, Escape-Avoidance and Confrontive Coping. Women in the control group had lower scores for Planful Problem-Solving than men, but higher scores for both Seeking Social Support and Escape-Avoidance.

### **5.3.4 Conclusions**

Looking at the impact of life events, study II might indicate that adverse childhood experiences are a risk factor for both causes of death, whereas proximal stressful life events are a risk factor for death by suicide to a higher degree than for sudden violent death. Furthermore, study II might confirm the suggestion from study I that common to the suicide and the sudden violent death groups is a mix of internalizing and externalizing psychopathology and coping, whereas the sudden violent death group is distinguished by mostly externalizing psychopathology and coping strategies. The finding that the suicide group had significantly less Planful Problem-Solving than both the control group and the sudden violent death group can have important implications for suicide prevention and for treatment strategies.

Improved recognition and understanding of the interplay between life events, both in the distant past and the present, and coping styles, besides other well-known risk factors, may facilitate the identification of young people at risk of suicide and other forms of violent death. Clinical enquiries must include, besides suicidal thoughts, also adverse childhood experiences, recent life stressors, coping, and destructive and self-destructive acting out. Study II suggests that social interventions focusing on adverse childhood experiences might lead to improved suicide prevention, as well as prevention of sudden violent death. Additionally, recent strains in life were associated with Confrontive Coping, both in the suicide and sudden violent death groups. Such externalizing ways of coping can result in new strains in life, thus creating a vicious circle of life events and coping with lethal outcomes. The use of externalizing, aggressive, hostile, risk-taking coping constitutes in itself a barrier against help-seeking. Consequently, other kinds of interventions are needed in social services, youth organizations, schools, etc., focusing on signs of anti-social behavior and maladaptive coping. Counteracting life-threatening behavior among young people, hostile contempt, violence in interpersonal and intergroup relationships, and externalization and projection onto others of own shortcomings and weaknesses, is one of the great challenges of our time.

## **5.4 STUDY III: Shame behind the masks: The parents' perspective on their sons' suicide**

The aim of study III was to build a tentative conceptual model of the process behind suicide among boys and young men (aged 12–25), grounded in their parents' views. Extensive interviews with parents in 33 cases of suicide were analyzed using grounded-theory methodology. The material consisted of 28 maternal interviews and 23 paternal interviews, comprising a total of 51 interviews (in 18 cases the interviews included both parents, in 10 cases only the mother and in five cases only the father).

Parents described a range of interacting factors contributing to their sons' suicide, summarized into the core category "Shame" and 33 subcategories. In the tentative conceptual model the relationships between the subcategories could be visualized as a "cogwheel mechanism." In this metaphor, which was actually used by one of the parents, the cogs of each interacting wheel represent subcategories centered on the four agents in the drama ending with the boy's suicide: the parents, the boy, his siblings and friends, and the professionals. The subcategories interact and reinforce one another within each cogwheel and between the cogwheels, forming what we call "a negative feedback loop" of the process behind suicide.

#### 5.4.1 Parental cogwheel

Typically, both parents *blamed themselves* for actions either taken or overlooked and they felt like accessories to the boy's suicide. They felt they had been unable to understand the boy's signals and had paid insufficient attention to him. At the same time, *parents felt powerless and deprived of information* when they saw the boy was suffering but would not talk about his feelings, rejected their advice, was depressed and shied away from contact. Sometimes the parents never received any information when the boy was in trouble because he reached his majority at the age of 18 years. Typically, they said they *did not know or understand* that the boy was depressed, was drinking excessively or had problems with drugs, had suicidal thoughts or plans, or had attempted suicide. After the boy's death, this information was obtainable from the boy's friends, siblings, girlfriend, professionals or the school staff. *Death, suicide, mental illness or substance abuse in the family* could redirect the parents' attention away from the boy. The parents' feelings of powerlessness, lack of information and not understanding were reinforced by their *relationship and communication problems*. Most of these parents (57.6%) were *divorced or separated*, with the children often in the middle of their fights. Mothers could describe the father as like "Dr. Jekyll and Mr. Hyde," and fathers could say the mother "needed psychiatric help." This interacted with *parents' conflicting demands*, difficulties agreeing on child-rearing and differing ideas and values about most things. Typically, the mother described the father as *uncommitted, unreliable, emotionally blocked or overinvolved and demanding*. As a consequence, the *mother felt that she had sole responsibility* for the boy, lacking support from the father both at home and when meeting experts. A central theme in the parents' accounts was *family alliances, coalitions and secrets*. Generally someone was excluded from information others had access to and felt shut out. Disappointed in each other, both parents could make a pact with the children. Alliances and coalitions often spanned three generations. Almost all parents said they *always worried* about the boy. They could perceive him as different, more sensitive, intelligent, less social, or having a different psyche. Ignorant of the symptoms of depression, they might worry about his passivity. The parents' narratives revealed their *unconscious ideas about the boy's mission and role*. Typically, these

ideas concerned one of the boy's characteristics that a parent seemed to recognize in a partner or parent. Furthermore, the parents' expectations and wishes varied depending on the boy's ordinal position of birth. One mother said her firstborn son had special privileges and was especially important for her parents, but she also blamed him for being "an Ego-boy", stubborn and obstinate like her father. His special mission was to be her "armor-bearer."

#### **5.4.2 Boy's cogwheel**

According to almost all parents the boy was *exposed to trauma or stressful life events*. He could have been sexually abused or maltreated, or bullied, or he may have witnessed spousal abuse, or his life could have been threatened by criminals or restricted by depression or compulsory psychiatric care. Typically, *the boy had been exposed to recent loss or separation*. In the previous year, he may have moved out of the parental home, may have lost a close friend who abandoned him or died, lost a parent through divorce or because they moved to another town, or may have separated from a girlfriend or male partner. The parents spoke about the boy's *somatic illness* and *adverse medication effects*. Typically, the boy had *problems at school* with both *friends* and *grades*. Alternatively, the boy had *work and money problems*, but was too ashamed to seek help. As a variant, the boy could have had *a destructive love relationship* with a notoriously unfaithful or addicted girlfriend, or one who threatened suicide when he wanted out. Managing of strains in life was typically aggravated by the boy's *high demands and expectations*. He could be a perfectionist, performing well, but second best did not count. The boy's vulnerability was typically interconnected with his struggle with questions of *identity*, *homosexuality*, and *existential issues*. He was described as odd, seemed lost or immature, looking for answers in philosophy, politics, and religion. All these factors contributed to the boy feeling *deceived*, *disappointed*, *unhappy* and *angry* with the parents, siblings, lover, friends, teachers, classmates, co-workers or professional caregivers. The boy felt self-disappointment, abandoned and lacking in emotional support. In most cases multiple factors reinforced each other, arousing the boy's anger. Typically, both parents said that *the boy acted out* as a reaction to all traumas and stressful life events by committing a crime, driving recklessly, starting fights with immigrants, seeking out ultra-right groups or attempting suicide. Furthermore, parents typically said that *the boy concealed problems and hid behind a mask*. He pretended to be contented and happy, lied, manipulated and hoodwinked others, always denying any problems. On the other hand, the boy could *ask parents for help* if he was in despair. At worst, he could be rejected by both parents.

Generally, four interwoven paths to suicide were described by both parents: being *hunted and haunted*, *addicted*, *depressed*, or *psychotic*. The boy could be haunted by acquaintances or hunted by drug dealers, or could be under pressure



from his own ideas and inner perceptions. In any case, he could feel caught in a dilemma, either imagined or real, concluding that he would never get out. *Signs and preparations* could come at different times but were not recognized as such. The parents could recognize suicidal thoughts but might interpret them as depression, not understanding that he also had plans for suicide. Both parents reacted to a change in his appearance without understanding the boy was depressed. The parents could relate something astonishing and alarming the boy had said a year before. In retrospect, they understood that he had had suicidal plans from reading his farewell letter or homepage. Exactly the same process came into view in all interviews. The boy withdrew from others or broke off relationships, quit his job, and isolated himself. Once he had made up his mind, he might have called everybody he knew, visited relatives and friends, carefully saying farewell without letting them know it was a farewell.

#### **5.4.3 Siblings and friends**

Typically, the boy could *entrust and confide with siblings* about wanting to die or suicide. Usually, they kept such information from parents. Also *friends could be entrusted* but they *kept the boy's secrets*. They could keep secret his drinking habits, drug abuse, being deceived or homosexual, not wanting to “rat on a friend.”

#### **5.4.4 Professional's cogwheel**

Typically, *parents asked for professional help* when they were worried about the boy. Usually, he accompanied his parents to the care-giver only once and refused to return. Also *the boy could ask professionals for help*, but often he did not get the help he wanted. Typically, parents experienced that the *professionals did not understand the emergency, and did not listen or take responsibility*. According to them, professionals were unavailable, seemed disorganized, were replaced by others, had different opinions in critical situations and communicated poorly with both other services and the family. Parents could feel that professionals started with preconceptions and were not interested in asking them or the boy for the reasons behind his attempted suicide. When the boy needed help after a suicide attempt or had suicidal thoughts, professionals could disagree with the mother about the urgency, so they went home and the boy killed himself.

#### **5.4.5 Between the cogwheels**

The interactions between subcategories in the four cogwheels formed a complex pattern. For example, the boy's struggle with questions of identity, sexual orientation and existential issues reinforced the parents' worries about the boy or their feeling that he was different. The boy's high demands and expectations could be paralleled by the parents' unconscious ideas about the boy's mission and role. The



patterns of family alliances, coalitions and secrets interacted with the boy's hiding behind a mask. When the boy did ask professionals for help, he was ashamed and concealed most of his problems, resulting in their failure to realize the emergency. The professionals could feel powerless in the same way as the parents did. As a result of all these interactions, the boy could land in an empty wasteland with nobody able to catch his signals and cries for help.

#### **5.4.6 Prototypical personalities**

Three distinct personalities emerged from the parents' descriptions of the boy's façade shown to the outside world: the clown, the warrior and the prince. The interplay between the boy's habitual way of concealing his problems and the parents' unconscious ideas about the boy's mission shaped the role he played. *The clown* was outwardly happy and entertaining, but inwardly sad, depressed and had psychical problems. *The warrior* was tough outwardly but could not speak about his painful feelings and troubles. *The prince* expected everything to go well and always got the best from parents and from life. These three *personas* or masks could hide an inner image of a shamefaced loser.

#### **5.4.7 Shame**

Different forms of shame were hidden behind these masks and interwoven into most other categories. The boy could feel ashamed of something he had done, of something which had happened to him, about his physical appearance or about being himself. The boy could be ashamed and feel worthless because he did not achieve something or because of all the stupid things he had done. He could feel outrage and shame for being mistreated, not being in charge of his life, the lack of support from those closest to him, or being unable to live a life he thought worth living. The boy could be ashamed of being too short or sweating too much, or could think he looked ugly, had big ears or big front teeth, or that something was wrong with his nose. The boy could feel ashamed of some aspect of his identity or sexual orientation. Often, he did not like to attract attention, and was shy; he avoided being photographed, seen or heard. He could question his *raison d'être* and feel ashamed of how his life had become, of his lack of confidence, of not being loved or happy.

#### **5.4.8 Conclusions**

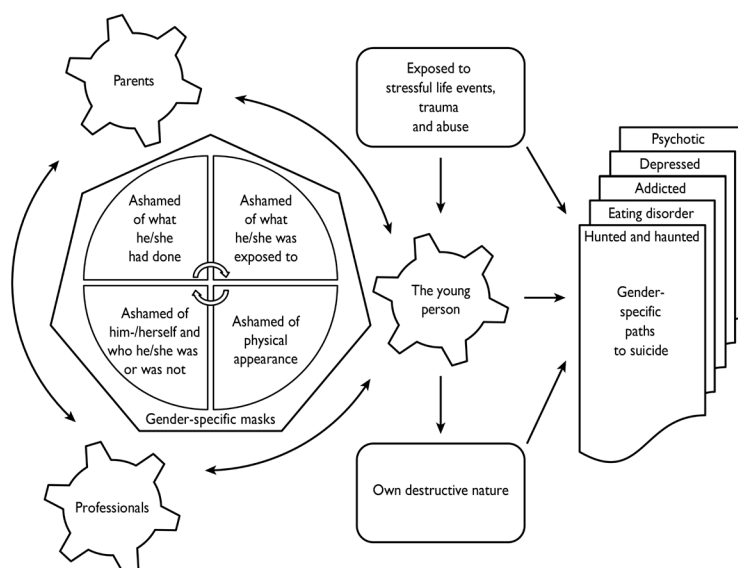
In summary, the tentative conceptual model of the process behind suicide among boys integrates several internal and external factors included in the parents' explanations. A key finding in study III is the parallel processes within the parental relationship, the parents' relationship with the boy, and the family's contacts with professionals, processes transmitting and disseminating destructive forces in negative feedback loops. Wherever they start, the destructive processes tend to

emerge in several systems, reinforcing the boy's precarious position. The main barrier to seeking professional help seemed to be the boy's shame. His tunnel vision resulted in a firm conviction that there was no help available. Family alliances, secrets and myths can hinder family members from "fitting the pieces together" and taking action. One important conclusion is that it is a matter of life and death *who* receives the suicidal message, *how* it is interpreted, and *what* actions they take. The preconceptions and beliefs among friends, siblings, parents and professionals will be decisive. In the present study, most boys communicated their suicidal thoughts and plans not only to siblings or friends but also to a parent or professionals. Thus, they were not blind to his cues, they simply misinterpreted them. A further problem was the lack of communication between parents, parents and professionals, parents and friends or siblings.

## **5.5 STUDY IV: Shame and gender differences in paths to youth suicide: Parents' perspective**

The aim of study IV was to build a generic conceptual model of the processes underlying youth suicide, grounded in the parents' perspective, and to compare young women's and men's suicidal processes. Thus, study IV widens the perspective from study III and includes the parents' attempts to understand and explain to themselves why their daughter committed suicide. We constructed a generic conceptual model of the processes underlying youth suicide, based on 78 interviews with parents in 52 consecutive cases of suicide (19 women, 33 men) identified at forensic medical autopsy, and compared by sex. In the cases of women's suicide, the material consisted of 27 interviews (16 maternal and 11 paternal interviews; in eight cases interviews included both parents, in eight cases only the mother and in three cases only the father). The comparison material of men's suicide (previously analyzed in study III) comprised 51 interviews (28 maternal and 23 paternal interviews; in 18 cases interviews included both parents, in 10 cases only the mother and in five cases only the father).

The generic model of processes underlying youth suicide was developed around one core category, *Shame*, surrounded by 28 subcategories gathered into three thematic domains: *Parental Cogwheel*, *The Young Person's Cogwheel*, and *Professionals' Cogwheel* (Figure 5).



**Figure 5.** The generic conceptual model of processes behind youth suicide from the parents' perspective. (Reproduced from study IV)

### 5.5.1 Core category: Shame

We found that different forms of shame coincided. Similar to boys, the girl could feel ashamed about something she had done, or had been exposed to, about her physical appearance, or about herself and who she was—or was not—as a person. Often, it was a matter of a double shame, the young person's own and shame in the eyes of others, reinforcing feelings of failure. Regardless of source, shame functioned as an effective barrier to seeking help from adults. The girl might fear something inconvenient or awkward would be brought into the open. Asking for help could mean that she would have to face adults' perception of her precarious situation on top of her own. Trying to escape the unbearable shame, the girl could repeatedly change her place of residence or change school, but ultimately found no escape.

### 5.5.2 Cogwheels of powerlessness

In the parental narratives, similar categories emerged for girls as in study III of boys' suicide. The relationships between the categories could be conceptualized on a meta-level as a "cogwheel mechanism." The parental cogwheel, the girl's cogwheel and the professionals' cogwheel together formed negative feedback loops of powerlessness among the three interacting agents. The girl and her parents felt powerless. Professionals felt powerless when confronted with the girls' destructiveness and parental expectations. This reinforced the girls' feeling of powerlessness

and further contributed to the vicious circle. The girl felt ashamed of her powerlessness and despaired, believing that the only way to save some of her dignity and find her better self was the “emergency exit” from the shameful scene. The girls gave definite warnings of their thoughts or plans, but those closest to them were unaware of the significance of these signs or did not know how to respond.

In retrospect, parents *blamed themselves* for the girl’s suicide. Simultaneously, parents reported that they *lacked knowledge, understanding, information, and felt powerless*. They received fragmentary and diffuse information and were unaware that their child had been sexually abused, bullied, had problems with drugs or alcohol, had an eating disorder, was involved in truancy, or had attempted suicide. *Death, suicide, mental illness and substance abuse in the family* were generally reported. The parents were typically *separated or divorced*, had *relationship and communication problems*, and made *conflicting demands* on their daughter. Surprisingly, the fathers generally described themselves as *uncommitted, unavailable, unreliable, emotionally blocked or demanding*, and said *the mother bore sole responsibility* for the girl’s upbringing, whereas these categories were less frequent among the mothers. A central theme in all accounts encompassed *family alliances, coalitions and secrets*. Generally, such tacit pacts included some family members and excluded others, leaving the girl with conflicting loyalties or burdened with a secret. Parents *always worried* about the girl and described her as different from a sibling or friends, more intelligent, talented, artistic, active and fearless, or as a bit odd, less social, less feminine and more fragile. *Unconscious ideas* about the *child’s mission and role* were more frequently revealed by the mothers than the fathers. The daughter could be the mother’s comforter and paternal substitute or have a maternal role among her siblings even if they were older, making it harder to emancipate herself.

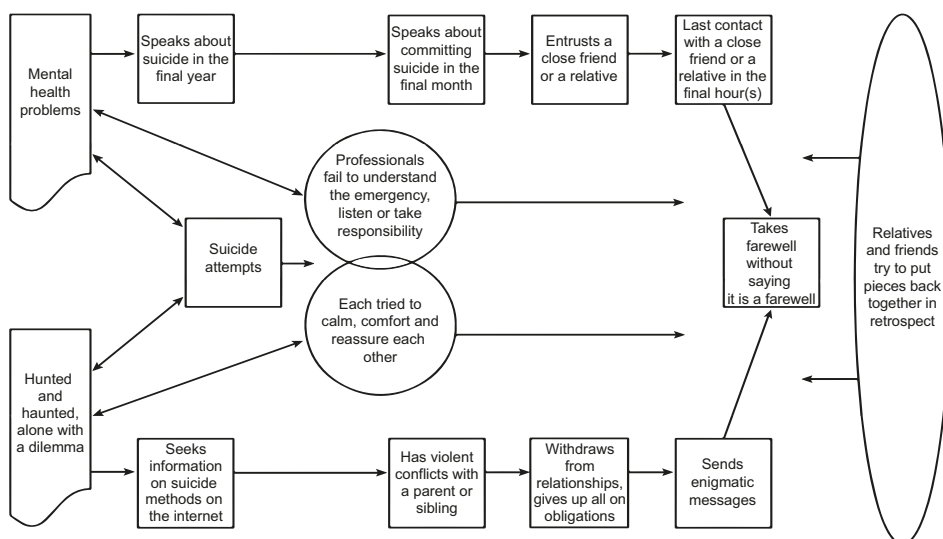
As reported by all mothers and most fathers, the girl was *exposed to repeated traumas, abuse and several stressful life events*. Typically, the girl was seriously *harassed and bullied at school* because she was overweight, “looked ugly,” or stood out. Bullying could lead to changing schools and the conviction: “they won and I lost.” Being sexually abused emerged as a specific variant for girls. Generally, the girl was *exposed to multiple recent losses or separations*. A typical example was a girl who lost her father to divorce in that final year, and a friend to suicide. In addition, two new friends broke contact with her, and she broke up with her boyfriend. *Somatic illness, adverse effects of antipsychotics* and nonresponse to antidepressants were typically reported. Typically, the girl was doing well at school, but generally had *problems with friends or teachers*. Another typical theme was *work and money problems*. The mothers typically reported the girls’ *destructive love relationships*. Her boyfriend might be engaged in crime and experimenting with heavy drugs, involving her in codependency, or she could be unhappy in an on-and-off relationship. *High demands and expectations* were a variant for girls.

Poor self-confidence could impact the age-appropriate struggle with *identity and existential issues*. The girl might feel *deceived, disappointed, unhappy, powerless and angry*. Generally, girls *concealed problems and hid behind a mask*, often lying and manipulating. *Acting out* often included the girl's self-destructive behavior, such as seeking companionship with criminal men, destructive sexual relations, allowing herself to be exploited, self-harm, dangerous piercing, and suicide attempts. In most cases, the girl was self-destructive in several ways, often under the influence of alcohol or drugs. The girl typically *asked parents for help*, either help in acute situations, or more long-term help. Typically, *siblings and friends were entrusted and gave support*. The girl might give different pieces of information to different friends, and thus nobody had the whole picture. *Signs and preparations* could be observed occasionally but recognized first in retrospect. The girl withdrew from relationships, wanted solitude, or was intense and demanding. Parents could notice signs of depression or report suicidal communication but did not understand the seriousness of her problems. Generally, parents could remember astonishing and alarming utterances from a year before. The first message could be on a general level, the later ones could be more personal, and the final could hint to her actual way of committing suicide.

Typically, parents *asked professionals for help* for the girls' sake. The contact with a child and adolescent psychiatry service, social authorities or school counselor might be initiated early in the girl's life. Also, the girl could ask for professional help, but be referred elsewhere, be put on a months-long waiting list, be offered medication only or could meet different professionals at each occasion. As a teenager, she might be admitted for inpatient care, but discharged without any follow-up. The parents experienced professionals as failing to use the information and knowledge provided by the family, downplaying the emergency, refusing admission or referring elsewhere. The professionals were unavailable, inattentive, did not ask the right questions, did not listen to the parent's story or acknowledge the girl's pain. Recurrent themes were the lack of continuity in contacts with professionals and being prescribed a new medicine, when both the girl and her parent thought that she needed to talk to somebody who would take her seriously.

Whether for boys or girls, the same process, with different details, was recognizable in all parental interviews (Figure 6; references to the process model in square brackets). Exposed to serious defamation and intimidation, and finding no way out, "Mary" had spoken about suicide 10 to 15 times in the last three years [alone with an unsolvable dilemma]. She asked people on the Internet about how to commit suicide. She made four attempts with telephone wire, but professionals assured the mother that "these attempts were only about attention" [professionals fail to understand the emergency; parents and professionals tried to calm, comfort and reassure each other]. One month before the suicide, she told her best friend that she had attempted suicide [talking with relatives or professionals about committing

suicide might imply that there is less than one month left to change the young person's situation]. The mother described Mary as withdrawn and constantly depressed, tired daily. She totally withdrew herself, did not get dressed, shower or open her curtains [not recognizing the seriousness of these signs]. Two weeks before the suicide, she told her mother that "she had in mind to do it properly sometime," as "she did not want to grow up." She talked to a friend for two hours the night before it happened [taking farewell without saying it is a farewell]. An hour and a half before the suicide, she called her mother and asked for permission to stay home from school. The mother said "you have to try to go," as she had recently arranged "a very nice, special class for her." Mary "did not sound specifically angry or upset, she was totally calm, she only hung up and quit answering the phone." Afterward, the mother found a suicide note in Mary's computer, written one month prior to the suicide.



**Figure 6.** *Process model of paths to suicide in a prototypical case of "Mary." (Reproduced from study IV)*

### 5.5.3 Gender differences in paths to suicide

We found several gender-related, sociodemographic differences between the boys and the girls in the suicide group. More than half of the parents were separated or divorced. However, girls received less adult support and care. Only one fifth of girls, but twice as many boys, had married or cohabitant parents at the time of suicide. One fifth of the girls had lost a parent to death. Before the age of 18, more girls than boys had a psychiatric outpatient and inpatient history. Later on, about half of the girls and boys had psychiatric outpatient contact, whereas psychiatric inpatient care was more frequent among the girls.

The generic conceptual model captures the essence of the suicidal process in youths from the parents' perspective. Although most elements of this model were represented with similar case frequencies for both sexes, several gender differences were apparent in the quality and content of the categories. Homosexuality was an important issue for boys, not girls. High demands and expectations were more frequently reported for boys, whereas poor self-confidence was prominent for girls. The feeling of being alienated and powerless was more prominent among girls than boys. A specific theme in the girls' material was violent conflicts with either the mother or father. Simultaneously, girls' mothers experienced their relationship as particularly close. Girls and boys were *exposed to strains in life* to different degrees. Multiple recent *losses or separations, problems at school* with friends and grades, as well as *destructive love relationships*, were more frequently reported for girls than boys. *Bullying* and *sexual abuse* were more frequent among the girls, the latter being rare for boys. *Acting out* was as frequent among girls as boys, but more often included the girl's self-destructive behavior, whereas the boys' crimes were usually more serious.

The parents generally described five interwoven paths to suicide: being *hunted and haunted, addicted, depressed, psychotic, or having an eating disorder*. Being *afraid* emerged as a distinct and typical subcategory for the girls. *Alcohol and substance abuse* was more common for boys, and misuse of anabolic steroids was present only among boys. Depression was typical for girls and general for boys; psychosis was rare among the girls; an eating disorder was typical for girls but rare for boys. Girls' experience of nobody listening to them was more prominent than among boys and the girls' parents reported more details about shortcomings in contacts with professionals than did boys' parents. Almost half of the girls and boys had made no prior suicide attempt. Multiple attempts were more common for girls and single attempts for boys. Violent (physical) suicide methods predominated and were more common among the girls, the most common being hanging.

#### **5.5.4 Conclusions**

The most prominent finding in study IV is the repeated phenomenon of breakdown in different systems involved in the negative feedback loops. The young person's developmental breakdown was paralleled by a breakdown of parental communication within the family and a breakdown of cooperation with and between professionals. Study IV suggests that professionals meeting young people need special skills to recognize their own reactions and to address shame-related issues. The clinician's task is to be genuinely interested in, and to enhance the patient's curiosity about the function and symbolic meaning of suicidal thoughts, without fear. Attention must be paid to examining underlying shame, which is often masked by depression and rage. A focus on gendered shame and its manifestations,

such as hidden secrets, should be part of the acute treatment of suicidal patients. Professionals must meet the young person and the accompanying parent or friend separately, and be attentive to incongruent stories. Perhaps most important is to look for the hidden pain and what the young person is most afraid of, as well as to listen attentively to the parents who might often know more about their suicidal children's predicament than they themselves realize. A skilled professional can assist in making this implicit knowledge more explicit.



## 6 DISCUSSION

### 6.1 Main Findings from the Quantitative Studies

The overarching aim of the quantitative studies was to investigate the effects of accumulative exposure to different social, family, personality and mental health factors in three groups of young people: cases of suicide, cases of other forms of sudden violent death, and control cases. The objective of study I was looking for common as well as distinguishing risk factors for suicide and other sudden violent death among young people. The rationale of focusing on interactions between life events and coping strategies in study II was that this may be an essential aspect of processes leading to unnatural sudden death among young people. The applied statistical methods made it possible to identify common and distinguishing risk factors for suicide and other forms of sudden violent death, as well as interactions between life events and coping styles.

The findings from the quantitative studies are congruent with several psychological theories of suicide, described by Barzilay and Apter (2014). The study of coping strategies confirmed social problem-solving vulnerability both in the suicide group and in the other forms of sudden violent death group (theory of *cognitive rigidity in problem-solving*; Schotte & Clum, 1987). The study of risk factors confirmed that psychiatric diseases per se may constitute a severe strain in life but lead to suicide first in combination with other vulnerability factors, as previously postulated by the *clinical-biological model of suicide* (Mann et al., 2005). According to this model, a common trait factor associated with suicidality is responding to stressful life experiences with hostility and aggression (cf., Bridge, Goldstein, & Brent, 2006). The two quantitative studies showed that this factor is common for cases of suicide and other forms of sudden violent death, but is more prominent in cases of sudden violent death. Thus, suicide and sudden violent death might be consequences of underlying aggressive impulses that, in combination with other risk factors, determine whether the aggression is directed toward others or toward oneself (*two-stage model of outward or inward directed aggression*; Apter et al. 1993; Plutchik, 1995; Plutchik et al. 1989).

In the studies included in the present thesis, the youngest age at suicide was 12 years, and at sudden violent death it was 10 years. According to a systematic review of empirical studies on life events and suicidal behavior (Liu & Miller, 2014), there is some evidence that children younger than 10 years have not developed the cognitive capacities to really understand the nature of death, thus being incapable of carrying through suicidal actions (Cuddy-Casey & Orvaschel, 1997; Nock et al., 2008). The risk of suicidal behavior seems to emerge around age 12 with a striking increase during adolescence (Nock et al., 2008, 2013). The age distribution in studies I and II suggests an increased incidence of both suicide and

other violent death over the course of adolescence and emerging adulthood (see Figure 3). Furthermore, these studies indicate that the interplay between adverse or stressful life events, both in the far past and present, and maladaptive coping styles contributes to an increased risk of both suicide and other forms of sudden violent death. As suggested in a review of the current state of knowledge (Miller & Prinstein, 2019, p. 442), “failures of acute stress responses and suicidal crisis are transactionally linked. Adolescents’ perceptions of a stressor and their ability to cope are likely altered by failures of acute stress responses, which, in turn, lower their threshold for stress tolerance in the future.”

### **6.1.1 Risk factors**

Looking at the risk factors for suicide and sudden violent death, identified in the univariate analysis in study I, we found both similarities and differences. Both groups had significantly lower upper secondary school results than the controls, lower attained educational level, and were less likely to have had a meaningful occupation. Addiction was associated with both causes of death, but having an addicted father was more common in the suicide group, whereas abuse of psychoactive drugs was more common in the sudden violent death group. Darke et al. (2009) found that alcohol and psychoactive substances were often present in victims of both committed suicide and homicide. Despite this similarity, illicit drugs were more than twice as likely to be present among homicide victims at the time of death. In study I, only 11% of the sudden violent death group were victims of homicide. Furthermore, being addicted at the time of death did not discriminate between legal and illegal substances. Still, we found a higher proportion of persons being under the influence of drugs or alcohol in the suicide group as compared to the sudden violent death group (Table 3). It is reasonable to assume that it can be hard to carry out a decision of taking one’s own life without using some kind of tranquilizer. It is also possible that being under the influence of tranquilizers can blur the mind of the person, resulting in lethal action.

Both groups had higher odds of admission to a treatment unit for young people with substance abuse or criminality and of inpatient adult psychiatric care. Admission to an inpatient child and adolescent psychiatric ward was more common in the sudden violent death group, whereas admission to an adult psychiatric outpatient ward was more common in the suicide group. Thus, among CAP inpatients there is an increased risk of sudden violent death and among adult psychiatric outpatients there is an increased risk of suicide, whereas among those admitted to a treatment unit for young people as well as among adult psychiatric inpatients, there seems to be an increased risk of both suicide and sudden violent death. In a Canadian register study of health care contacts during the year prior to suicide, Schaffer et al. (2016) found that outpatient mental health contacts were most frequent and often

occurred close in time to the suicide. The authors concluded that there is a need to embed risk assessment and integrate preventive interventions into all health care, and not just emergency units. Previously, a Finnish survey (Pirkola et al., 2009) suggested that well-functioning outpatient mental health services are associated with lower suicide rates in comparison with inpatient services.

On the univariate level, borderline personality disorder (BPD) was associated with both causes of death; depression spectrum disorder was associated with death by suicide, whereas antisocial personality disorder (APD) was associated with sudden violent death. Accordingly, being investigated or sentenced for criminal acts was more common in the sudden violent death group. Several previous studies have found an association between BPD (emotionally unstable personality disorder according to ICD-10; WHO, 1992) and both suicidality (Cheng et al., 2000; Lesage et al., 1994; Runeson & Beskow, 1991a; Skodol et al., 2002) and sudden violent death (Rydellius, 1984, 1988). The association between depression and suicidal behavior is well-documented (Bourdet-Loubère, & Raynaud, 2013; Cheng et al., 2000; Eapen & Crncec, 2012; Lewinsohn et al., 1994; Runeson, Beskow, & Waern, 1996; Williams et al., 2009). Several previous studies indicate the association between APD and sudden violent death (e.g. Coffey et al., 2003; Repo-Tiihonen et al., 2001; Rydellius, 1984, 1988). Depression is commonly regarded as an internalizing disorder and APD as an externalizing disorder, whereas BPD is characterized by a confluence of internalizing and externalizing problems (Kaess, Brunner, & Chanen, 2014; Verona et al., 2004). Thus, a mixture of internalizing and externalizing problems represents what is common for cases of suicide and cases of sudden violent death, whereas internalizing problems correspond to what is distinctive of death by suicide and externalizing problems correspond to what is distinctive of other forms of sudden violent death.

Higher odds of belonging to the suicide and the sudden violent death groups were associated with severe strains in life, such as having been exposed to adverse childhood experiences and to stressful life events in the previous year. However, being sexually assaulted was associated with higher odds of suicide, whereas being bullied was negatively associated with other forms of sudden violent death. A previous study by Fergusson et al. (2000) indicated that adverse life events were associated with increased risk of suicidal behavior in youth, independently of social, family, personality, and psychiatric factors. Based on files of 200 adult outpatients, Read et al. (2001) found that sexual abuse in childhood was a stronger predictor of suicidality on average two decades later than a current depression. A cross-sectional, retrospective study (Joiner et al., 2007) indicated that physical and sexual abuse in childhood is a stronger risk factor for suicide attempts than molestation and verbal abuse. A Norwegian study (Reigstad & Kvernmo, 2017) found that sexual abuse and parental mental health problems were most strongly

associated with suicide attempts among adolescent girls, whereas the strongest risk factor among adolescent boys was suicide among friends, in the family, or in the neighborhood. A Canadian case-control study of 67 suicide victims (Séguin et al., 2011) found associations between committed suicide and adverse experiences, such as being exposed to abuse, physical and/or sexual violence. The study identified two different subgroups of suicide victims, with early onset and with later onset of adversity. The importance of adverse life events as an independent risk factor for death by suicide was further supported by reviews of empirical literature (Foster, 2011; Liu & Miller, 2014). A Swedish register study of 548,721 adolescents and young adults (Björkenstam, Kosidou, & Björkenstam, 2017) confirmed that childhood adversity, particularly accumulated adversity, is a risk factor for committing suicide. Study I demonstrated that both adverse childhood experiences and recent strains in life in the previous year are important risk factors for both suicide and sudden violent death. Sexual assault increased the odds of suicide, probably contributing to internalizing problems. The negative association between being bullied and sudden violent death might be interpreted as a consequence of externalizing problems (such as acting out and aggressive tendencies rather than being victims), as the sudden violent death group was exposed to bullying to a lesser extent than the controls. Being in a steady relationship was negatively associated with suicide, thus being a potential protective factor.

To summarize, common risk factors for suicide and sudden violent death on the univariate level included lower educational level, lack of meaningful occupation (such as studies or work), addiction, admission to a compulsory treatment unit for young people, inpatient adult psychiatric care, borderline personality disorder, adverse childhood experiences, and stressful life events in the year preceding the death. Unique risk factors for suicide comprised lack of steady relationship at death, father's addiction, outpatient adult psychiatric care, depression spectrum disorder, and being exposed to sexual assault. Unique risk factors for sudden violent death involved being a man, abuse of psychoactive drugs, being investigated or sentenced for criminal acts, having been a CAP inpatient, and having antisocial personality disorder.

Analysis of multivariate effects of the potential risk factors indicated that the number of stressful life events in the previous year was the only common risk factor for both suicide and sudden violent death. Risk factors for suicide included addiction and being an inpatient in an adult psychiatric ward. Risk factors for sudden violent death included lower elementary school results, lower education level, and abuse of psychoactive drugs. Paradoxically, the Family Dysfunction Index and being bullied were associated with lower odds of dying a sudden violent death rather than belonging to the control group. None of the psychiatric diagnoses was associated with higher odds of suicide or sudden violent death on the multivariate level. However, see the above discussion of diagnostic similarities and

differences between the suicide group and the sudden violent death group on the univariate level. Furthermore, even if several mental disorders are associated with suicide risk, they often co-occur (Hoertel et al., 2015). Recently, Caspi and Moffitt (2018) argued that a single dimension of general pathology severity, termed “*p*,” can measure different dimensions of mental disorders and can indicate symptom severity. The authors refer to studies demonstrating that higher *p* scores are associated with family history of mental disease, brain function, developmental issues in childhood, and impaired functioning in adulthood. Among others, *p* predicts such real world life outcomes as suicide (Caspi et al., 2014; Lahey et al., 2015). Accordingly, Hoertel et al. (2015) showed that suicide attempts are not due to specific disorders but to a broad general psychopathology liability that might be understood in terms of the internalizing and externalizing dimensions.

The analysis of risk factors demonstrated that the paths to suicide and sudden violent death share some common characteristics but also have some distinguishing features. The suicide group seems to have been more vulnerable and exposed to different kinds of stressors, whereas the sudden violent group seems to have been more prone to acting out and risk-taking. What seems to be common for both groups is a combination of internalizing and externalizing problems and corresponding methods of coping with adversities in life (Escape-Avoidance and Confrontive Coping). Several studies have observed that suicidal behavior can be associated not only with depression and withdrawal but also with impulsivity, anger, and aggression (Apter et al., 1991, 1995; McGirr et al., 2008; Verona et al., 2004). The results of study I suggested that both internalizing and externalizing problems and internalizing and externalizing coping occurred in the suicide group, and mostly externalizing coping and externalizing psychopathology occurred in the sudden violent death group.

### **6.1.2 Life events and coping strategies**

These differences were further explored in study II. Common to the suicide and the sudden violent death group was significantly less Planful Problem-Solving, more Escape-Avoidance, and more Confrontive Coping than the controls. Distinctive for the suicide group was the highest level of Escape-Avoidance, corresponding to internalizing ways of coping, whereas the sudden violent death group had the highest level of Confrontive Coping, corresponding to externalizing ways of coping. Surprisingly, no significant between-group differences in Seeking Social Support were found in study II.

Differences between both the suicide and the sudden violent death group and controls in Escape-Avoidance were partly mediated by both distal and proximal negative life events (i.e. both adverse childhood experiences and stressful life events the previous year). Differences in Confrontive Coping were partially mediated

by proximal negative life events, whereas differences in Planful Problem-Solving were partially mediated by distal negative life events. Thus, adverse childhood experiences seem to contribute to less of adaptive coping. Both adverse childhood experiences and recent stressful life events seem to contribute to maladaptive internalizing ways of coping, whereas recent stressful life experiences seem to contribute to maladaptive externalizing ways of coping.

Moderator analysis showed that distinctive for the sudden violent death group was a stronger association between adverse childhood experiences and Escape-Avoidant Coping than among the controls. Furthermore, the association between recent stressful life events and Confrontive Coping was stronger in the suicide group and the sudden violent group than in the control group. These results might confirm that common to the suicide and the sudden violent death groups is a mix of internalizing and externalizing psychopathology and coping, whereas the sudden violent death group is distinguished mostly by externalizing psychopathology and coping strategies. Both groups were exposed to significantly more adverse childhood experiences and recent stressful life events than the controls; however, the suicide group experienced more recent stressful life events even in comparison with the sudden violent death group. These results might suggest that distal adversities in life are a risk factor for both causes of death, whereas proximal stressful life events are a risk factor for death by suicide to a higher degree than for sudden violent death. The conclusion from study II was that improved recognition and understanding of the interplay between coping styles and life events, both in the far past and present, besides other well-known risk factors, may facilitate the identification of young people at risk of suicide and other forms of violent death.

## **6.2 Main Findings from the Qualitative Studies**

The rationale for focusing on young men who died by suicide in study III was the higher frequency of suicides among males than females. The rationale for focusing on young women who died by suicide and on gender comparisons with young men, in study IV was the higher rates of psychological ill-health, suicidal thoughts and suicide attempts among females.

The overarching aim of the qualitative studies was to build a generic conceptual model of the processes underlying youth suicide, grounded in the parents' implicit, tacit or narrative knowing (cf. Polanyi, 1967, 1976; Polkinghorne, 1988). The applied methodology of grounded theory (Charmaz, 2014; Strauss & Corbin, 1998) made it possible to give voice and make sense of the parents' experiences (cf. Larkin, Watts, & Clifton, 2006), generating a codified and transferable body of conceptual knowledge.

### 6.2.1 The generic conceptual model

The generic conceptual model of processes behind youth suicide based on the parents' experiences (Figure 5) integrates elements of several psychological models of suicide, described by Barzilay and Apter (2014). Feeling deceived, disappointed, unhappy, powerless and angry, the young people experienced unbearable psychological pain, comparable to Shneidman's (1993) *psychache*, leaving no other solution but death (psychological pain theories). Reinforced by burning shame and rage, the young person was trying to escape from the self (suicide as *escape from the self*; Baumaister, 1990; O'Connor & O'Connor, 2003). In other words, the young person felt trapped in an unsolvable dilemma and crushed between the *cogwheels of powerlessness*, looking for an "emergency exit" from the shameful scene (arrested flight model; Williams, 1997). According to the latter theory, suicidal behavior is to be seen as a *cry of pain*, rather than a cry for help, as a reaction to humiliation or rejection. In a multimethod study, Orbach, Mikulincer, Sirota, and Gilboa-Schechtman (2003a) applied grounded theory analysis of narratives, followed by factor analysis, and operationalized nine factors of mental pain: "the experience of irreversibility, loss of control, narcissistic wounds, emotional flooding, freezing, estrangement, confusion, social distancing, and emptiness" (p. 219). In subsequent studies, Orbach, Mikulincer, Gilboa-Schechtman, and Sirota (2003b) confirmed the positive association between mental pain and suicidality, and the reverse link between mental pain and both optimism and life regard. As concluded by Orbach (2003, p. 7):

When mental pain becomes intolerable, the suicidal person is flooded by experiences of deterioration and fragmentation of the self. At this point, facilitators (like bodily dissociation) or inhibitors (such as a sense of commitment to the family) may come into play as detrimental forces pushing toward completed suicide.

Similarly, Levinger, Somer, and Holden (2015) showed that young adult suicidal inpatients with low tolerance for mental pain showed higher levels of bodily dissociation, and that this dissociation increased the risk of suicide independently of the contribution of mental pain. A systematic literature review (Verrocchio et al., 2016) concluded that mental pain is a stronger vulnerability factor of suicidal ideation than depression; we cannot understand the suicidal person without taking mental pain into consideration. The qualitative studies III and IV showed that feelings of entrapment and hopelessness led to a *tunnel vision*, comparable to the *maladaptive schemas* (biases in attention, information processes, and memory) described in the cognitive model of suicide (Wenzel, Brown, & Beck, 2009). Furthermore, these studies revealed states of interpersonal disconnection, both passive (rejection by others) and active (withdrawal), previously described as *perceived burdensomeness* (feelings of being a burden to others) and *thwarted belongingness* (lacking connections to others) that, together with acquired capability for suicidal action



led to lethal outcomes (*interpersonal theory of suicide*; Joiner, 2005; Ribeiro et al., 2013; Silva, Ribeiro, & Joiner, 2015). On the other hand, few suicide notes (Gunn et al., 2012) and diaries (Lester, 2014) were found to include the themes of perceived burdensomeness and thwarted belongingness, perhaps indicating a gap between the first-person perspective and the perspective of grieving close relatives. Similarly, a study of depressed psychiatric patients' first-person accounts (Fisher et al., 2015) showed that the sense of belonging was directly related to depression and hopelessness, but did not predict suicidal ideation and previous suicide attempts beyond other well-known risk factors. On the other hand, a Norwegian study (Dieserud et al., 2010) showed that the events most often preceding adolescent suicide attempts by both sexes were interpersonal conflicts.

The model of steps toward suicide in a prototypical case, presented in study IV (Figure 6) is congruent with the *integrated motivational-volitional model of suicide*, posed by O'Connor (2011). The model describes the progression from the pre-motivational phase (vulnerability factors and life stressors), via the motivational phase (feelings of entrapment), to the volitional phase (actual suicidal behaviors, determined by access to means, capability, impulsivity, imitation, etc.). The cumulative effects of life events, personality, mental health problems, and family and societal factors, described as the cogwheel mechanism, are also in focus in the life-course model of the etiology of suicidal behavior (Fergusson et al., 2000) and in the cognitive vulnerability-transactional stress model of depression among adolescent girls (Hankin & Abramson, 2001). Furthermore, most of these explicit, empirically supported theories were congruent with the parents' implicit, private theories of suicide (Østlie, Stänicke, & Haavind, 2018; Werbart & Levander, 2005) when they attempted to understand and explain to themselves why their child had committed suicide.

### 6.2.2 Shame

Parents' unfolding stories revealed shame as a core category. As an underlying theme, shame was connected to all other categories in the cogwheels of powerlessness, but especially with family alliances, coalitions and secrets in the family, being exposed to stressful life events, repeated traumas and abuse, being deceived, disappointed, unhappy, powerless and angry. According to Ikonen and Recherdt (1993), shame is a reaction to the absence of approving reciprocity. The prototypical situation is the infant becoming ashamed of his/her own false expectations when the infant takes the mother's gaze for granted but her gaze is directed somewhere else. "Full-scale shame is the most unbearable of all emotions, and that is why we are inclined to think that 'rather death than shame'" (p. 107). The authors conclude that the most characteristic facet of shame is the experience that it concerns the whole self. Lansky (1991) assumed that the suicidal person is ashamed



of being unmasked and perceived as being dependent on a significant other, and at the same time being angry with this person, when feeling controlled, deserted or experiences as incapable of maintaining meaningful relationships. De Pison (2006) regarded toxic shame as one of the most important constraints inhibiting one's ability to cope with suicide and suicide-related events. This is especially relevant for adolescents, who often lack the necessary skills to deal with stressful life events in a healthy and adaptive way. In our studies, these young people withdrew from others, or ended relationships, and isolated themselves, trying to avoid threats from external reality and from their inner thoughts and perceptions. They felt unable to deal with their feelings of inadequacy, being misinterpreted by significant others, and being haunted by agonizing shame, yet still regarding others as stupid. In the parents' narratives, suicide appeared as a way to escape from a shameful scene, but in the case of young women it was also the only possibility to defend dignity.

Both among young men and women we found four overlapping forms of shame: being ashamed of what he/she had done, of what he/she was exposed to, of his/her physical appearance, and of him/herself as a person. The burning feeling of shame was connected with an inner image of being a loser, not being able to meet one's own and others' expectations, lost position in the peer group, self-destructiveness or being bullied, abused and scared. For both genders, shame threw a shadow of agonizing psychological pain on their inner perception of their future and of themselves as persons. Only the young men could feel ashamed of some aspect of their sexual orientation. A study of adolescent suicidal behavior found gender-specific triggers of shame (Watt & Sharp, 2001). Most prominent among females were interpersonal strains, such as uncaring parents, friends and other adults, and personal shortcomings; among males shame was connected to conspicuous indicators of status. A review of epidemiological studies of depression (Hankin & Abramson, 2001) concluded that mothers touch upon emotional experiences and sad feelings in a more detailed way with their daughters than their sons, at the same time as they are more controlling of their daughters. This pattern of gender socialization contributes to girls' more negative self-image. In our understanding, these results confirm that there are gender-specific factors behind the core category of shame.

In patients who attempted suicide, shame could be important as a cause, trigger and sequel of a suicidal act (Wiklander et al., 2012). The predominant themes in suicide notes were "apology/shame," thus indicating that the dead person could have wished for other solutions to their predicaments (Foster, 2003). An inability to endure suffering, psychic pain and to mourn lost objects, both current and in the more distant past, seems to be connected with emotional and functional problems. This may be linked to transgenerational transmission of psychic pain.

### 6.2.3 Three-generational perspective

We found several examples of unresolved generational failures overwhelming the latest generation. The mothers could describe daughters actively repeating relational patterns established in their grandparents' families. The mother of a scared girl might have a father who beat his children yet she chose for herself a husband she actually feared. The mother of a daughter having repeated relationships to drug-addicted men could have both a father and a husband with alcohol problems. Parents who failed academically could have parents who were uninterested in their children's achievements and themselves winked at their children's school problems. Death, suicide, mental illness or substance abuse were very common in family histories. The young women's suicide could repeat the same theme as a grandparent's, e.g., a loss of dignity; whether anticipated (the grandfather's) or actually experienced (the girl's). In the following case, the girl saw the indignity as her own fault:

Her grandfather hanged himself in the basement; she copied it exactly and died. Grandpa's death was like this: we divorced, which greatly surprised my husband's parents. ... They were talking about selling the house. Simultaneously, the media were carrying stories about nursing homes and how old people had to lie there crying out for help, and no one cared. Then one day he had hanged himself in the basement. ... He had constructed a chin-up bar for exercise in his basement, as well as down here in this room. This was a few years before she did it here. So she copied it, so to speak.

The results from the qualitative studies underpin the importance of a three-generational perspective on suicide. Suicide attempts were more frequently reported by persons from families with a history of suicide (Sorenson & Rutter, 1991). The familial transmission of suicidal behavior cannot be explained by the psychiatric disorder alone (Brent & Mann, 2005; Runeson & Åsberg, 2003). Within groups with similar diagnoses, impulsive aggression contributes to increased risk of suicidal behavior (Brent & Mann, 2006). Brent and Mann's (2006) model depicts two familial pathways to suicide: both parent's depression and parent's impulsive aggression might lead to a parent's suicide attempt and to a suboptimal family environment. Taken together, this might result in early childhood abuse and neglect, depression, and impulsive aggression in the child, accompanied by an inability to regulate mood or tolerate distress. In the presence of new life stressors, the outcome can be the child's suicide attempt. A Swedish total population study of 11.4 million individuals concluded that both genetic factors and shared environmental factors contribute to the familial clustering of suicide (Tidemalm et al., 2011).

The most credible explanations for non-genetic transmission of suicidal behavior are the intergenerational transmission of abuse and of adverse family characteristics, including a history of disrupted relationships and complicated grief (Brent &

Melhem, 2008). Young people may be less capable of coping with such adverse familial influences as sibling, maternal and paternal suicide; thus, it is necessary to consider the history of suicidal behavior in the whole family when assessing suicide risk (Mittendorfer-Rutz et al., 2008; Tidemalm et al., 2011).

#### **6.2.4 Prototypical personalities**

Even though we found similar forms of shame among young men and women, the shame was generally hidden behind gender-specific masks, or *personas* shown to other people. *The clown* among the males hid his sadness and despair behind a happy and entertaining façade. His feminine equivalent, *the lark*, had the task of pleasing her mother or livening up the whole family. The masculine *warrior* and *the invisible girl* could not show their feelings and problems but went on fighting. *The prince* and *the princess* expected all the best from others and from life, but were unable to deal with even small setbacks. Unique to the young women were being *the mother's friend and confidante*, as if the order of generations was reversed, *not wanting to grow up*, being afraid of becoming an adult woman, being afraid of their own high demands and expectations, or afraid of not being able to separate from the mother. *The wandering Saint* sacrificed herself for others, and the extremely gifted *Nobel Prize winner* gave up her strivings, feeling them to be meaningless. However, note that the typology of personalities found in the qualitative studies III and IV is based on the relatives' view of the person who died and not on the person's view of herself/himself.

#### **6.2.5 The vicious circle of destructive processes**

Study IV revealed negative feedback loops of powerlessness among the three interacting protagonists: the young person, the parents and the professionals. Together, the “cogwheel mechanism” reinforced the feeling of powerlessness in all protagonists, contributing to the feeling that there was no help to get. Generally, the young person was deceived, disappointed, unhappy, powerless and angry. However, the feeling of being powerless and alienated was more prominent among girls than boys. Both males and females could react by acting out and law-breaking, but in the case of young men their crimes were usually more serious, whereas young women were more often involved in self-destructive behavior. Parents felt powerless and deprived of information when they saw their child's suffering but the child did not want to talk about it and shied from contact. Professionals felt powerless when confronted with the young person's destructivity and the parents' cry for help. One of the conclusions from this study was that a combination of aggression and feeling powerless and ashamed in young persons should be noted by professionals as an indicator of suicide risk.

On another level the parents were struggling with their own disappointment about the breakdown of their relationship, and their own feelings of inadequacy and failure as parents. Typically, the mother felt she had sole responsibility for the child, whereas the father was uncommitted, unavailable, unreliable, emotionally blocked, or demanding. Both parents could be questioned and accused by their son when they wanted to set limits for him. The son was disappointed since he had expected the mother to protect him. The daughter was more often abandoned by one of the parents, felt angry and sad, but did not want to burden the other parent. If the girl had a good enough relationship with her father she nevertheless had disappointing relationships with her mates or teachers. Both the young men and women could try to escape their life situation by starting a destructive love relationship, getting stuck in abuse of drugs or other forms of self-destructiveness. Many of them seemed to feel that they could not complain about their dilemmas and feelings to their parents because they had nothing concrete to complain about and they thought that their parents were doing everything possible for them. On the other hand, if the young person does not trust anyone and does not feel free to disclose the truth, he or she creates an effective barrier to getting the greatly needed help.

Some parents wanted to decide too much for their child, others were not involved at all. To balance support and making demands is of course not an easy task. Fathers who themselves had managed a tough life could expect their sons to be equally strong, forgetting their sons did not have all their experience. Mothers could keep the son's involvement with the police secret from the father, trying to protect the son from the father's anger. The father could do forbidden things and play around with the son when the mother was not around.

It was striking that, according to the parents, the young women expressed their feelings in a more drastic wording than the young men, which further hindered them from getting help. The parents reported that they did not take their daughter's threats seriously just because she openly talked about her feelings of powerlessness and hate, and her conviction that her death would be a relief for her parents. The young woman could be threatened by her classmates because she was successful at school and had become the teacher's pet. For the young woman it was never a privilege to be clever, nobody considered being smart as important, except herself. She could be abused and threatened by a man, so even if the professionals had been interested in hearing her story she was prohibited from complaining. If she specifically asked for psychotherapy, she could be offered medication. Deceived by others, she could feel like a hunted deer. Generally, the young women had more contact with public health services and other professionals, but felt she was not met with respect. The young men had greater difficulties in expressing their feelings, hiding themselves, or the opposite, joking and making fun of themselves in order to conceal their shame or banish their depressive mood. The main problem

for the young men could be to admit that they had a problem. For example, they could admit having sleeping problems but did not want to reveal the underlying circumstances, so nobody could understand their dilemma. For both males and females, the conclusion was that there was no help to get.

### **6.3 Bridging Quantitative and Qualitative Investigations**

Integrating the results from quantitative data analyses with qualitative results can push our knowledge beyond the limits of quantitative methodology, and the opposite, quantitative analyses can impel our knowledge beyond the limitations of qualitative methodology. Let us for example consider the gender differences in the paths to suicide.

Looking at the sociodemographic data presented in study I, we found twice as many males as females in the suicide group and eight times as many males as females in the sudden violent death group. In most Western countries, young men have lower rates of suicidal ideation and attempts than young women, but twice as high rates of committed suicide (Canetto & Sakinofsky, 1998; Payne, Svami, & Stanistreet, 2008; Wasserman, Cheng, & Jiang, 2005). This gender difference was even more pronounced in the sudden violent death group, with eight times as many males as females. Looking at this the other way around, no gender differences were found in studies I and II in the frequency of previous suicide attempts among those who died young by suicide: about half of both women and men had no previous attempts and about one fourth of them had made multiple attempts. This can be compared to the control group, where 18% of the females and 8% of the males made suicide attempts, confirming that the control group was representative in this respect of the general youth population. According to a systematic review (Miranda-Mendizabal et al., 2019), female-specific risk factors for suicide attempts included interpersonal problems and internalizing disorders, whereas male-specific risk factors for death by suicide included externalizing disorders. No studies of female-specific risk factors for suicide death could be identified in this review. In studies I and II, no woman in the sudden violent death group had made a previous suicide attempt, whereas 11% of men had made a single or multiple attempts. However, the very limited number of women in this group restrains the interpretation of this finding.

As shown in study II, females in the suicide group had higher scores for both Seeking Social Support and Confrontive Coping than males. In the sudden violent death group, females had higher scores for Planful Problem-Solving than males but lower scores for Seeking Social Support, Escape-Avoidance and Confrontive Coping. Furthermore, differences in Escape-Avoidance between suicides and controls were mediated by differences in stressful life events in the previous year to a

greater extent among females than among males. Looking at the moderating effects of life events on the ways of coping, stressful life events in the previous year were more strongly associated with Confrontive Coping among females in the suicide group and among males in the sudden violent death groups compared to the controls.

Leipold, Munz, and Michéle-Malkowsky (2019) studied coping in adolescence and emerging adulthood. The use of problem-focused coping and seeking social support increased at the threshold between adolescence and early adulthood. Young women perceived more stress and tended to use more socioemotional support. The negative correlation between perceived stress and well-being was moderated by seeking social support and meaning-focused coping (the ability to see the problem from a different point of view). That means that individuals who are more prone to using these two coping styles could experience higher levels of well-being despite stress.

In a previous study, Orbach, Mikulincer, Sirota, and Gilboa-Schechtman, (2003a) investigated correlations between nine mental pain factors and four coping styles (Problem-Focused Coping, Emotion-Focused Coping, Seeking Social Support, and Distancing). The hypothesis that mental pain is inversely related to Problem-Focused Coping (taking actions to change the stressor) could be confirmed, whereas the associations between mental pain and Emotion-Focused Coping (trying to regulate emotional reactions to the stressor) displayed a paradoxical pattern. Elevation of mental pain might demand Emotion-Focused Coping, but at the same time such coping can reinforce mental pain (Orbach et al., 2003a). In the qualitative studies III and IV, the young persons experienced unbearable mental pain, while feeling entrapped in an unsolvable dilemma and crushed between the cogwheels of powerlessness. Unable to change the stressors or to regulate their emotions, they saw the suicidal “emergency exit” as the only way out of the shameful scene. Even if the sudden violent group was not studied by applying qualitative methods, we can assume the presence of unbearable mental pain in these cases. Quantitative study I showed that risk factors for sudden violent death included adverse childhood experiences, stressful life events in the year preceding the death, addiction, lack of meaningful occupation, CAP and admission to an adult inpatient psychiatric ward, being admitted to a compulsory treatment unit for young people with substance abuse or criminality, being investigated or sentenced for criminal acts, and having borderline and antisocial personality disorder. Furthermore, study II indicated high levels of Confrontive Coping in this group. Taken together, these results indicate the use of externalizing coping to escape mental pain.

Furthermore, the quantitative results from studies I and II can be compared to the qualitative typology of prototypical personalities in the suicide group, presented in study IV. Some of the *personas*, or masks shown to the outside world, were

common for both young men and women, even if expressed in a gender-specific manner: the clown and the lark, the warrior and the invisible girl, and the prince and the princess. Other *personas* were unique to young women: the mother's friend and confidante, the girl who did not want to grow up, the wandering Saint, and the Nobel Prize winner. Furthermore, even if the four paths to suicide (being hunted and haunted, addicted, depressed or psychotic) were common for both genders, distinct and typical subcategories for the young women were being scared and having an eating disorder but hiding it from friends and professionals, whereas misuse of anabolic steroids was present only among young men. Even if acting out was typical despite gender, females displayed more self-destructive behavior, thus turning their aggression inward, while males were more often involved in outward aggression. Additionally, more males than females had no psychiatric contact, thus suggesting there were gender-specific help-seeking patterns not only among the young people but perhaps also among their parents.

In the present investigation, every second young person who died in suicide had made no previous suicide attempt. The qualitative studies indicated that parents could report unambiguous, suicidal communication but not take the threat seriously. Only in retrospect they could recognize signs and preparations. Thus, there is an urgent need for more knowledge of warning signs observable in other arenas, such as school, the workplace, other places where youth activities take place, and medical and social services. The relatively high percentage of multiple suicide attempts in the suicide group can be interpreted in terms of Joiner's (2005) interpersonal-psychological theory of suicide, suggesting that repeated suicide attempts may familiarize individuals with the fear and pain connected with lethal self-harm. Furthermore, violent physical methods were more common than use of medication or drugs, hanging being the most common suicide method among both sexes (Table 4). This is also the most prevalent method despite gender in Europe (Värnik et al., 2008). Previous Swedish register studies showed a highly increased risk of death by suicide after earlier violent suicide attempts (Runeson, Haglund, Lichtenstein, & Tidemalm, 2016; Runeson, Tidemalm, Dahlin, Lichtenstein, & Långström, 2010).

In the sudden violent death group, none of the females and only one tenth of the males attempted suicide. The qualitative studies of suicide suggested a vicious circle of powerlessness and destructive processes among the three protagonists: the young person, the parents and the professionals, ending with the young person's conclusion that the only way out was the lethal "emergency exit" from the shameful scene. We can only speculate that this vicious circle could be broken in cases of attempted suicide not ending with later death by suicide. No qualitative analysis of interview data in cases of other forms of sudden violent death has been hitherto conducted. However, we can presume that similar vicious circles were



active in these cases, resulting in risk-taking behavior. Traffic accidents were the most common cause of sudden violent death for both sexes, followed by medication (abuse of psychoactive drugs) and overdose among boys (cf., Cunningham et al., 2018; Kinner et al., 2015; Repo-Tiihonen et al., 2001; Stattin & Romelsjö, 1995; Stenbacka & Jansson, 2014). The quantitative study II suggested a vicious circle of stressful life events and maladaptive coping with lethal outcomes in both groups. The importance of stressful life events and inability to cope with them was also found in the qualitative studies III and IV. All studies, taken together, strengthen the idea of aggression and violence turned against oneself in cases of suicide and turned outwards in cases of other forms of sudden violent death.

The research program started from an empirically anchored hypothetical model (presented in the Introduction), based on the assumption that children and adolescents growing up in insecure environments show symptoms of acting out as a reaction to their difficult life situation, and are at risk of both suicide and sudden violent death. An accumulation of adversities in life and an inability to cope with them was depicted as a “stepladder” ending with suicide or other forms of sudden violent death (Figure 1). The quantitative studies I and II allowed exploration of linear associations between risk factors, life events and coping strategies, and belonging to the suicide group or to the sudden violent death group, in comparison with the control group. The qualitative studies of the parents’ perspective on their sons’ and daughters’ suicide resulted in replacing the linear “stepladder” with a generic conceptual model of processes behind youth suicide, depicted as the cogwheels of powerlessness. A similar analysis of qualitative data in the sudden violent death group is still to be done. However, the researcher’s intimate knowledge of the interviews in cases of other forms of sudden violent death suggests the existence of similar cogwheels of powerlessness among all the involved protagonists, the main difference being that there were more externalizing ways of coping in this group.

Furthermore, looking from a more encompassing societal perspective, a comprehensive generic model of the processes behind youth suicide and sudden violent death has to be supplemented by the background cogwheel of social conditions, contributing to the feeling of powerlessness in all involved protagonists. For example, having a meaningful occupation (studies or work) was 87% less likely in the suicide group and 84% less likely in the sudden violent death group than in the control group. In the suicide group, 24%, and in the sudden violent death group 27% of the young people were unemployed, as compared to 6% in the control group (Table 3). Furthermore, several of the young people in both target groups were involved in undeclared, illegal work. The narratives of the informants conveyed the young person’s lack of feeling of community, in strong contrast to the narratives in the control group. However, there were no notable between-group differences in the parents’ occupation. Still, in both groups the parents could express



lack of adequate social support. In the suicide group, the parents' experiences of the professionals as unavailable, disorganized, replacing each other, having different opinions and communicating poorly with the family as well as other services mirrors the politically governed organization of social and health care services.

Taken together, the paths to suicide and to sudden violent death have some common characteristics but also noticeable differences regarding both adverse life experiences and ways of coping. The working hypothesis for the research program was only partially supported. Still, the findings presented here indicate that death by suicide, and other forms of sudden violent death might, both but to different extents, result from elements of self-destructive behavior (Menninger, 1938; Richardson et al., 2013; Stanistreet, 2001; Teplin et al., 2005).

## **6.4 Adolescence, Emerging Adulthood, Suicide and Sudden Violent Death**

One of the conclusions from the qualitative studies III and IV was that to expand our understanding of youth suicide, we have to relate the parents' subjective perspective to the theoretical perspective on disrupted identity development in adolescence and emerging adulthood. In modern societies, the transition from childhood to adulthood confronts the young people with new challenges during a prolonged and turbulent period of time. In Erikson's (1959, 1968) early formulations of the psychosocial development, the core conflict of adolescence is identity vs. identity diffusion, followed by intimacy vs. isolation in young adulthood. In these developments, the young person has to integrate his/her sense of the self into a changing and sexual body. Furthermore, the sense of the self is affected by changing social norms and by responses from others. Adolescence is often seen as a critical period of bodily changes and social reorganization, but also of vulnerability to suicidal ideation and behavior, triggered by interpersonal stressors (Miller & Prinstein, 2019). In the post-World War II era in developed Western countries, young people are given an extended time, beyond the adolescent period, to explore their future possibilities and different identity commitments (Arnett, 2000, 2015; Kroger & Marcia, 2011; Swanson, 2016). However, this seems to be accompanied by an increasing prevalence of emotional problems and mortality from suicide and accidents among young adults. Nowadays, the period of life between 18 and 29 years of age is considered as emerging adulthood. According to Arnett (2006), the five key features of emerging adulthood are identity exploration, feelings of being in-between, self-focus, instability, and navigating a wide range of life possibilities.

Orbach (2003) claimed that negative bodily experiences and attitudes toward the own body (such as body hate, repudiation of the body, bodily dissociation or anhedonia, insensitivity or hyper-sensitivity to bodily cues) may function as facilitators

of self-destructive processes. The experiences of the own body are of immediate relevance in adolescence and emerging adulthood. As shown by Levinger et al. (2015), young suicidal inpatients had reduced tolerance for mental pain and increased levels of bodily dissociation than both non-suicidal inpatients and the controls. Furthermore, coping with mental pain was the only factor differentiating between young suicidal and non-suicidal inpatients. Thus, even if low tolerance of mental pain and tendency to bodily dissociation might be common features of adolescence and emerging adulthood, these two interacting areas are of special relevance for suicidal behavior and have to be addressed in prevention programs and treatment of suicidal youths and young adults. Study II showed a weak positive correlation between age and both Planful Problem-Solving and Confrontive Coping. This means that increasing age was associated with both more adaptive and more maladaptive coping with strains in life. This period of life seems to be decisive for the paths toward more mature or more pathological personality developments and ways of living.

From the life-course perspective, how each developmental task is resolved determines to a substantial extent how well the person will be able to cope with future tasks and crises (Erikson, 1959, 1968). Suicide in young people has been considered as the most extreme form of developmental breakdown (Laufer & Laufer, 1984). For the young people in the studies included in the present thesis, the family and society may have failed to provide the necessary conditions for resolving gender-specific developmental crises. The quantitative and the qualitative studies, taken together, indicate that the young people in both the suicide group and the sudden violent death group had less chance to form a life worth living than the controls. Gender roles and expectations from family and society play a vital role in the transition from childhood to adulthood for both sexes. Nobody wants to be a failure but this is most often the perception of a teenager or a young adult when they are not successful in an activity they take part in. Oscillating between different incompatible images of the self might be the most important hindrance or release, depending on previous experiences and the direction of the new perception of identity. The qualitative studies III and IV showed that the young persons in the suicide group assumed that if they had not made a success of themselves by the age of 20 or 21 respectively it would be too late to bother.

## **6.5 Barriers to Help-Seeking**

As shown in Table 3, 29% of those who died by suicide and 42% of those who died a sudden violent death had never sought or never received any help from mental health services. Empirical studies have demonstrated that the majority of people with suicidality do not seek help. A systematic review (Han et al., 2018) found that common barriers to help-seeking among persons with suicidal ideation,

suicidal behavior, and suicidal decedents included high self-reliance, low perceived need for treatment, as well as stigmatizing attitudes toward suicide, mental health problems, and toward seeking professional treatment. The qualitative study IV showed that different forms of shame functioned as effective barriers to seeking help from adults, including parents, relatives, and professionals. However, both the young men and women could confide in a close friend who kept the secret. The quantitative studies I and II showed that barriers to help-seeking were even higher in the sudden violent group. This might be associated with the marked male predominance in this group, but also with more excessive use of Confrontive coping. Furthermore, actual admissions to adult inpatient care were associated with higher odds of belonging to the suicide group than to the control group. Surprisingly, no significant between-group differences in the coping strategy Seeking Social Support were found in study II.

Help-seeking patterns differ between sexes (Miranda-Mendizabal et al., 2019). As summarized in this systematic review, young women are more prone to seek help from friends and professionals and are more at ease talking about relational and emotional problems (Beautrais, 2002; Rickwood et al., 2005), whereas young men may regard help-seeking as un-masculine and tend to adopt avoidant coping strategies when confronted with depression, suicidal ideation, and suicidal behaviors (Gould et al., 2004; Rhodes et al., 2014). Accordingly, looking at the mean scores on the four coping factors in study II, females in both the suicide group and in the control group had higher scores for Seeking Social Support than males (however, note that this coping strategy is not the same as the actual help-seeking behavior).

A systematic review of qualitative studies concerning youth suicidal behavior (Lachal et al., 2015) concluded that the suicidal act functions as a cruel message leading to incomprehension among family members and health care professionals. Together with fears associated with death, this interfered with their empathic capacity. The young person's experience of distress and loss of control resulted in despair and suicidal action. Both parents and the professionals could feel impotent and helpless in the face of the young person's distress. As concluded in study IV (referred to in Lachal et al., 2015), this formed negative feedback loops of powerlessness among the three interacting agents. The results from study IV are also congruent with another theme found in the above-mentioned review: the experience of incomprehension and of being unheard among all the interacting agents. As summarized by Lachal et al. (2015, p. 18):

...everyone experienced and expressed great difficulty in identifying with the distress of these youths. Family members reacted by denial, by distancing themselves from what frightens them. Healthcare providers described their difficulties in being empathetic and asked for assistance...

The suicidal behavior of the youths imposed the violence of their act on all others. Additionally, cultural and moral beliefs about suicide, together with pessimistic views about current professional capability to intervene might hinder clinicians from routine inquiry into suicidal thoughts (Turecki & Brent, 2016). As noted early by Maltzberger and Buie (1974), self-destructive patients in psychiatric inpatient settings evoke in the staff the omnipotent wish to be the only one who can rescue the patient and subsequent hatred against the patient who does not recover and who destroys all sense of connection. Accordingly, one conclusion from studies II and IV was that barriers against help-seeking are not only related to the young persons themselves but include professionals and the organization of routine mental health care. Another conclusion was that counteracting life-threatening behavior among young people, feelings of powerlessness and loss of control over their lives, hostile contempt, violence in interpersonal and intergroup relationships, and externalization and projection onto others of own shortcomings and weaknesses is one of the great challenges of our time. Strengthening feelings of interpersonal connection, as well as addressing thwarted belongingness and perceived burdensomeness (Ribeiro et al., 2013) appears to be crucial for empowering those at risk for suicide, other forms of sudden violent death, interpersonal violence, and other forms of social destructivity.

## **6.6 Methodological Considerations**

This section elucidates the strengths and limitations of the included studies, and discusses the use of multiple methodologies and the issue of triangulation. Furthermore, the experiences of the participants and the researcher are commented upon, as well as the importance of the research alliance. Finally, some ethical issues are emphasized.

### **6.6.1 Strengths and limitations**

One asset of the studies included in the present thesis is that they are part of a programmatic, systematic research, following a step-by-step approach and focusing on the key issues of youth suicide and other forms of sudden violent death. In contrast to clinical studies, systematic research follows rules of evidence, which is necessary as a control for the unavoidable uncertainty. This includes attempts to explicate and periodically review the researcher's prejudices and pre-understanding, controlling for biases, such as confirmation bias, own emotional reactions, etc. when analyzing and interpreting the data.

Another asset of this research program is the inclusion in quantitative studies I and II of both cases of death by suicide and other forms of sudden violent death, as well as matched living control cases from the general population. As far as I know, no previous case-control study has compared risk factors for the two causes of death among young people.

Furthermore, the included studies are based on prospective collection of consecutive cases of death by suicide and sudden violent death with relatively low attrition (16–18%), contributing to the high representativity of our results. This should be compared with the usual dropout rate of 40–50% for psychological autopsy studies, reported in a review of methodological issues (Hawton et al., 1998). Thus, the collected data set provided a unique opportunity to explore similarities and differences between risk factors for death by suicide and sudden violent death. On the other hand, the qualitative studies applying grounded theory methodology are limited to cases of death by suicide. A corresponding analysis of implicit, tacit knowledge of parents in the sudden violent death group is still to be conducted.

The discovery-oriented approach of grounded theory made it possible to give voice and make sense of the parents' experiences (cf. Larkin, Watts, & Clifton, 2006). The analysis resulted in a generic conceptual model of the processes underlying youth suicide, grounded in the experiential data, thus contributing to our theoretical understanding. Making the parents' tacit knowledge explicit and systematic can give new and highly relevant knowledge for all those who are in contact with youths at risk. In this sense, the two qualitative studies respond to Barzilay and Apter's (2014) call for wider and more in-depth approaches in order to foster our understanding of suicide. On the other hand, the relatives' subjective perspective could be limited by several factors. Although most of the interviewees were no longer in the shock phase when they were contacted, they were obviously still mourning. Thus, their accounts were unavoidably colored by their idiosyncratic ways of dealing with grief.

The psychological autopsy method, although providing valuable and not otherwise accessible knowledge, entails methodological concerns about reliability and validity of data retrospectively collected from grieving informants (Berman, Jobes, & Silverman, 2006, Chap. 3). In the studies included in the present thesis, all data from the suicide and the sudden violent death groups are based on retrospective recall. Thus, the interview responses are inevitably adjusted to the already known outcome. A "search after meaning" might result in informants identifying a number of internal or external factors that could explain the death (Cavanagh et al., 2003). In the control group, living matched controls were included, in addition to their relatives, thus resulting in what Brent (1989) called "asymmetry of informants" in case-control studies. Furthermore, social desirability bias might have influenced answers in all three groups. For example, adverse childhood experiences, such as "battered mother" might be underreported, in the fathers' interviews. The significantly lower Family Dysfunction index in the sudden violent death group, as compared to the control group, might be a result of shared familial shame, or may in itself be an expression of dysfunctional cognitive patterns.

The use of multiple informants minimized the risk of over- or underreporting bias. On the other hand, the procedure of weighing the informants' answers inevitably involves a risk of subjective judgment. Another potential source of error is the varying number of informants in each case (between one and four) as well as the relatively high proportion of single informants (26% in the suicide group, 38% in the sudden violent death group, and only one person in the control group, 0.04%). Due to the relatively low base rate of completed suicides and sudden violent death among children, adolescents and young adults, the prospective data collection took several years (2001 through 2005). In the control group the interviews were conducted from 2006 through 2008. Thus, the effects of interviewer bias could vary across time, potentially contributing to varying quality of the interviews. Psychiatric diagnoses were based on data reported in psychological autopsy interviews. Even if the interviews comprised criteria for several psychiatric diagnoses, this indirect procedure could be another source of error. Furthermore, the data were collected in a metropolitan area in a Western country. Consequently, we cannot disregard the influence of specific societal norms and the healthcare system on the informants' reports.

A further limitation is the large number of statistical comparisons, which increases the risk of type 1 error. More importantly, the distinction between death due to suicide and sudden violent death, as identified at the Department of Forensic Medicine, might be questioned. Actually, two of the cases of suicide were originally assessed as accidents but following the interviews were reassessed as suicide, whereas one case originally assessed as suicide was reassessed as murder. A study of coroners' classification of unnatural death as suicide or as accident (Stanistreet et al., 2001) showed that an active mode of death (for example shooting, hanging, falling) expressed intent, behavioral change, deliberate self-harm and psychiatric contact were used as predictors of suicide as opposed to an accident classification. The authors concluded that for development of public health policy it may be more pragmatic to challenge the categorization of self-destructive behavior as either intentional or unintentional. Accordingly, in suicide and sudden violent death there are always degrees of intention and non-intention.

### **6.6.2 Multiple methodologies and triangulation**

With the general aim of this research program being to increase our knowledge of how multiple factors on different levels are related to and interact in cases of youth suicide and other forms of sudden violent death, both quantitative and qualitative methodology was applied. Independently of the current debates in the philosophy of science on opposite paradigms or complementary approaches in combining quantitative and qualitative methods (discussed in the Method section), in the present thesis the two methods are used sequentially in a series of studies,

seeking complementarity. The choice of method in each included study was determined by the nature of the research question. Following the logic of mixed method research, the intention was “to combine the strengths of and to compensate for, the limitations of quantitative and qualitative methods” (Pluye & Hong, 2014, p. 30). Based on the psychological autopsy interviews, the studies included in the present thesis, taken together, combine “the power of stories and the power of numbers” (ibid.). In other words, this thesis combines perspectives from within (the parents’ attempts to understand and explain for themselves why their child died by suicide) and perspectives from outside (risk factors, life events and coping).

Furthermore, seeking convergence and corroboration of results from different methods and designs studying the same phenomenon contributes to triangulation. Denzin (1978, p. 291) defined triangulation as “the combination of methodologies in the study of the same phenomenon.” He distinguished between four types of triangulation: (1) different data sources within the same study, (2) different investigators, (3) multiple theoretical perspectives within the same study, and (4) multiple methodologies to study a research problem. Denzin also distinguished within-methods triangulation (use of either multiple quantitative or multiple qualitative approaches) from between-methods triangulation (use of both quantitative and qualitative approaches). The present thesis is based on methodological, between-methods triangulation.

The integration of qualitative and quantitative data occurs at several levels, described by Fetters, Curry, and Creswell (2013). At the study design level, a *convergent* approach was applied, with *parallel* data collection and analysis. At the methodological level, the qualitative data in studies III and IV link to the quantitative data in studies I and II through the *sampling frame*: the interviews in the qualitative studies were selected from the total sample. At the interpretation and reporting level (in the Discussion section), the outcome of the ‘fit’ of the qualitative and quantitative findings was partial *confirmation* and *expansion*, and not discordance. However, one limitation is that the integration is limited to one of the three included samples, namely the youth suicide group. In further research, grounded theory methodology could be applied to other forms of sudden violent death.

A more cautious description of this research program is to consider it as multi-method research, as the integration of results is carried out on the level of general discussion rather than in each included study *per se*. Still, the series of studies could contribute to a more complex understanding of the multifaceted phenomena of youth suicide and sudden violent death.



### 6.6.3 Participants and their experiences

The loss of a relative due to suicide or other violent death can be a ruinous experience for those bereaved (Kristensen, Weisæth, & Heir, 2012). Interviewing parents and other relatives is an exceptionally delicate matter, which places particularly high demands on the researcher. In my experience, the persons I had interviewed could use the research interviews as an opportunity to express themselves and reflect in presence of a person whom I assume they hopefully perceived as someone who tried to show a genuine interest and who was neutral and not involved in contacts with authorities and professional services. The open interview questions about the interviewee's own understanding of the death and of the circumstances and processes behind what happened made it possible for the interviewees to develop their own story and not infrequently to put into words what previously they had only felt and thought. Likewise, the young people in the control group and their relatives generally appreciated the possibility to formulate their thoughts and to reflect in the interviews. Generally, the informants were pleased at contributing to what they saw as a highly relevant and topical research, and potentially contributing to future prevention of suicide and other forms of sudden violent death. As expressed by those bereaved, their participation was motivated by trying to make the meaningless of their own loss into something meaningful, potentially preventing other parents from having to end up in the same situation.

In an early Swedish study (Runeson & Beskow, 1991b), the participants in psychological autopsy interviews were able to give credible and detailed information, and seemed to benefit from the interviews. Wong et al. (2010) studied the experiences of psychological autopsy interviews in a Chinese case-control study, and found that most of the interviewees in the suicide group as well as in the control group appreciated the interviews. Furthermore, they could confirm that participation in a psychological autopsy study was helpful for most of the interviewees in the suicide group and did not have harmful effects. However, they also found some rare cases (2.3% in the suicide group and 0.9% in the control group) who answered "yes" when asked if they regretted taking part in the study. In the present investigation, two of the informants in the suicide group (0.02%) complained following the interviews.

The relatives of the deceased young person could use the interviews to try to make sense of what had happened and to repair their identity as good enough parents, siblings, or other relatives (Owens, Lambert, & Loyd, 2008). The interviewer's attentive listening, offering them time to gradually develop their own stories, could assist them in their mourning process (Beskow, Runeson, & Asgiird, 1991). In the interviews, the parents could blame themselves for not understanding the signs and signals before it was too late. They could express feelings of guilt for something they did or did not do in relation to their child. Many of the parents



had experiences of communicating their worries to the school and to the professionals but were often faced with teachers, nurses or psychiatrists who denied the seriousness of the situation and reassured them that their worries were exaggerated and that everything would get better. I often heard myself saying during the interviews that it was too painful for a parent to hear such things from their own child so of course they were not able to interpret the words they heard in the right way. The relatives could tell their painful stories to someone listening with a genuine interest and assisting them in finding their own understanding of what had happened. My role as interviewer was precisely to bring out the value of their own subjective perspective. Instead of meeting a person who moralized or corrected their perspective, and was expected to have the right answers, they met a researcher who was deeply convinced that their tacit knowledge was a valuable contribution to understanding what the experts and professionals might miss when meeting young people in trouble and their parents. The non-treatment aspects of the interview situation could often lead to helpful, quasi-therapeutic effects for the interviewees in the middle of their mourning process. Such unintentional effects of “not doing treatment” (Strauss, 1984) could facilitate the interviewees’ contact with their often painful feelings, memories and thoughts.

#### **6.6.4 Bereavement**

Even though the interview protocol included the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) for rating of grief reactions, the process of mourning after a loss of a loved one by suicide or sudden violent death was outside the focus of the present thesis. Still, the researcher inevitably was able to observe the informants’ grief reactions, which were consistent with those described in other studies. For example, a literature review (Kristensen, Weisæth, & Heir, 2012) confirmed that the grieving process is more difficult following a sudden violent loss than a loss from natural deaths. These difficulties included heightened risks for mental health complaints, difficulties making sense of the loss, blaming others or being blamed by others, self-accusation and guilt. In a Swedish register study of more than one million parents (Wilcox et al., 2015), mothers and fathers of individuals who died in suicide ( $N = 537$ ) or accident ( $N = 716$ ) had an over tenfold higher risk of sick leave longer than 30 days due to psychiatric diagnoses, as compared to parents of living individuals. A systematic review of controlled studies (Sveen & Walby, 2008) found no significant differences regarding different aspects of mental health between relatives of those who died by suicide and all other survivor groups. However, suicides were followed by increased levels of rejection, shame, stigma, need for concealing the cause of death, and blame. Accordingly, no significant between-group differences were found in an Australian study of 142 adults who were bereaved by suicide and 63 adults who were bereaved by sudden natural death of a family member or death by accident

(Kölves et al., 2019) regarding level of depression, anxiety and stress six months after the death. Nevertheless, the feelings of rejection, somatic reactions, stigmatization, responsibility and shame (measured by the Grief Experience Questionnaire) were significantly more predominant among those bereaved by suicide.

These findings are consistent with my own experiences. However, the complicated and often contradictory feelings of parents in the suicide group were also frequent among parents of young people who died by overdose in the sudden violent death group. The emotional reactions of anger were most common among parents of young people who died by homicide, but could also occur in cases of lethal accidents. Furthermore, many of the reactions of the bereaved in both groups were surprising, incomprehensible, or not recognized as such by them. Suddenly, they could forget the entrance code to their home or an important date and started to think they were completely mad or senile, not being aware that unconsciously they were using a lot of energy in trying to understand why this had happened. In such situations, I found it useful to inform the relatives about normal mourning reactions and symptoms, and to talk with them about what they really felt. If there was uncertainty from the parents point of view about whether it was a suicide or an accident the mourning process could be more difficult.

#### **6.6.5 Research alliance**

A well-functioning interviewee-interviewer relationship is a precondition for successful and reliable data collection. The more sensitive the area of research, the more important this relationship becomes. The term “research alliance” can be used as a parallel to the well-established term “working (or therapeutic) alliance” in psychotherapy. Bordin (1979) distinguished between three main ingredients of working alliance: goals agreement, agreement on methods (tasks) to reach the goals, and the emotional bond between the participants in the therapeutic endeavor. These three components are also easy to recognize in the research alliance. As researcher I had to do my best to establish an agreement with the responders on the meaningfulness of the present investigation and on the adequacy of the interview protocol, and perhaps most importantly, I had to be in emotional contact with the responders, balancing genuine curiosity, empathy and support. Interviewing close relatives of children, adolescents and young adults who have died by suicide or other forms of sudden violent death gives rise to a special situation. Both the interviewees and the interviewer could be strongly emotionally affected. For me, the keyword for doing these interviews was unconditional positive regard (Rogers, 1957) vis-à-vis the respondent. I had to be prepared to improvise because these people had gone through the most horrible experiences, feelings and thoughts about what had happened. At the beginning of the interview the informants could claim that they did not understand how this could have happened, it came like a

bolt from the blue, it was totally incomprehensible. As their story unfolded and we were able to find a common language, most of them had several ideas about what had preceded the death. They could be so occupied by guilt feelings that they made a confession that not only other family members, friends, drug dealers or doctors but also they themselves should be blamed. In such situations, it was important to let the responders freely express their feelings and not to comfort them before they had told their story. Furthermore, it was of great importance for me as an interviewer to keep a neutral and equidistant position, carefully listening to how the story unfolded and asking questions if the picture became unclear.

Siblings of those who died by suicide could be more eager to openly report something of importance. They could also have more guilt feelings, perhaps because of old sibling rivalry, or because they were closer in age and could more easily identify with the dead person. Siblings more often than parents knew if the deceased had had problems with alcohol or drugs and knew more details about the abuse. They could also reveal things about their parents and the quality of the relationship between the parents and the sibling which might have been harder for the parents to speak about. In young responders in all three groups it was important not to let them say too many “bad things” about their relatives, as this could lead to a bad conscience later and concern about what the interviewer thought of them. If it was unclear whether the death had been an accident the parents could come up with more likely explanations for their child’s death than parents in the suicide group. Responders who lived together more often had similar perceptions of what had happened, obviously because they spoke to each other and affected each other’s understanding. Respondents who could not grasp and put words to what had happened could try to prolong the interview or continue their narrative after the tape recorder was turned off.

#### **6.6.6 Managing the researcher’s feelings**

Interviewing parents, siblings, and other relatives of those who have died by suicide or other forms of sudden violent death also affects and changes the researcher. I am really grateful to all the persons I have interviewed that they dared to share all their thoughts and feelings with me. I have learned a lot from all of them and I am still impressed of their honesty and generosity. I remember that I decided when I started doing these interviews to be like a blank page or a clean sheet, thus following the rule of “bracketing” in qualitative research (cf., Fischer, 2009). This helped me to listen in an unprejudiced way to the informants’ stories instead of relying on the knowledge from recent research or on my own professional experiences. I was convinced that the parents, siblings, and other relatives were carrying a lot of knowledge that the professionals did not have. The important task was then to make use of their knowledge and add it to other perspectives and voices,

hopefully thereby contributing to more successful prevention of all meaningless deaths among children, adolescents and young adults. I learned more about the importance of relationships in our lives and that people are not always aware of how their relationship with one person will affect the relationships with other persons. When I had the opportunity to conduct several interviews in the same family I was fascinated by the different roles they had concerning the child and the different stories they told.

In psychoanalytic terminology, the feelings evoked in the therapist within a therapeutic encounter, as well as in the researcher within the frames of a qualitative research interview, are regarded as countertransference reactions (Holmes, 2014; Kvale, 2003). Following the intersubjective tradition, these feelings have to be regarded as co-created by the participant and the researcher (Holmes, 2014), as the researcher is open to being-with the participant in an emotionally charged relationship (Finlay, 2003). Not only the informants but also the researcher was confronted with her empathetically evoked mourning and reactions to the informants' losses. As the interviewer, I could feel the informants' sorrow; I could be upset on their behalf, be deeply moved by the life stories of the deceased, and their anxieties about the future. Worst was interviewing in the cases of homicide, as these deaths were so meaningless and frightening. One of the parents in this subgroup suggested that a relevant question to ask would be whether they felt vindictive. I had to be prepared to consider the informants' reactions but also of my own reactions during and after the interviews, actualized each time I worked on the interview material. Continuing conference presentations were one way of working through not only of my ideas and thoughts but also emotions evoked in the process of data collection and data analysis. Looking after myself included following the basic rules of reflexivity in qualitative research.

Critical reflexivity involves continuing exploration of the researcher's influence, as well as the influence of the relationship between the researcher and the participants, on the research process (Bott, 2010; Finley, 2003; Mortari, 2015). Mortari (2015) differentiated between four philosophical approaches to reflexivity. According to the pragmatist approach (represented by John Dewey), the object of reflection is thoughts and the aim is to strengthen the firm basis of evidence and rationality. The critical approach (represented by Michel Foucault) focuses on exploring the ways wherein the discourse reproduces prevailing power relations. From the hermeneutic perspective (as presented by Mortari), reflecting means to suspend the action and to focus the attention on the flow of thoughts. From the phenomenological perspective (represented by Edmund Husserl), reflecting involves an act of bracketing our pre-understanding (Fischer, 2009) and executing introspection, with the aim of attending to the immediacy of ongoing mental experiences and giving voice to them. To these approaches, focusing mainly on cognition, we could

add what Boden et al. (2016) call the “reflexivity of feelings.” The authors’ starting point was the feelings evoked by and permeating the research process while conducting a qualitative study on the experience of suicide. They concluded that reflecting on these multi-layer and often contradictory feelings could contribute to the qualitative analysis of interview data, and deepened the understanding of the participants’ experiences of the suicidal processes:

It is through a critical reflexivity of feelings at all stages of the research process that researchers are more likely to experience moments of empathic insight. Engaging with feelings brings researchers closer to the lived experience and helps us connect with it in all its complexity. (p. 1088)

Furthermore, continuing reflexivity may guide the researcher in ethical issues (cf. Boden et al., 2016).

### **6.6.7 Ethical issues**

Special efforts were made to prevent potential harmful effects of the interviews. The respondents in both target groups were contacted no earlier than three months post mortem first by letter and then by telephone in order to minimize the risk of interviewing in the shock phase of their crisis. If participation was declined, no further contact attempts were made. In the control group, the young person was contacted first and also asked for approval to contact the parents. In rare cases, the informants in a family wanted to be interviewed together on the same occasion. Prior to the interview, the informants were given information on the goals and procedures in the research program, and were asked to sign the informed consent form. All informants were offered professional support when needed. I asked every one of them if they wanted me to make a referral to an outpatient service or psychologist and told them that this offer applied to all family members. I told them they were all welcome to call me back if they needed more time to consider this offer.

## **6.7 Implications for Theory and Research**

On a theoretical level, the common feature of paths to suicide and paths to sudden violent death is the existence of self-destructive processes. As described by Orbach (2007), suicidal behavior is not a result only of mental health problems, negative life experiences, and poor coping. Rather, self-destructiveness has its own dynamics. Reviewing theoretical formulations, Orbach referred to several perspectives: self-destruction as an explicitly or implicitly motivated wish or need; as an outcome of emotional distress and failure to protect the self; as a result of distorted cognitions; and as a general personality feature leading to destructive actions. Empirical studies and observational data center, according to Orbach, around the

following themes: inward-turned aggression and impulsivity; rigidity and dichotomous thinking; provocative behavior and rejection of help; self-generated stressful life events and self-defeating behavior; self-hate, guilt and self-devaluation; and destructive perfectionism. Clinical data collected in psychotherapy with suicidal patients are thematized by Orbach as need for self-punishment and guilt feelings; self-entrapment as a way of being; cognitive self-entrapment and shame; extreme feelings of neediness, frustration and anger leading to “all-or-nothing” demands; creating losses and making oneself dispensable; and a combination of perfectionism and impulsivity. According to the author, in each individual case, several self-destructive processes are active. The centrality of different self-destructive processes is confirmed by both quantitative and qualitative studies included in the present thesis. Moreover, Orbach’s description of different converging perspective on self-destructive processes is likewise relevant for cases of sudden violent death.

As emphasized early in the psychoanalytic tradition, self-destructiveness is an inescapable aspect of human psychological life. Untamed, it may result in suicide, homicide, or sudden violent death (cf., Menninger, 1938). According to Maltzberger and Buie (1980), the suicidal act often may have the underlying meaning of revenge, punishment, flight from a persecutor, reunion with the mother of early infancy, escape from suffering or from frightening and repudiated sexual and aggressive forces, and rebirth. Scrutinizing the interviews in the sudden violent group indicates that risk-taking and life-threatening behavior may serve partly similar, partly different purposes. Common with the themes reported by Maltzberger and Buie are the themes of revenge, punishment, flight from a persecutor, and escape from suffering or from frightening and repudiated sexual and aggressive forces. Additional themes include escape from justice, omnipotent fantasies of perfection and invulnerability, flight from factual and existential limitations of life, defiance of societal norms, and murderous wishes directed outwards or against oneself. However, these impressions still have to be examined in a future grounded theory study of parents’ perspectives on their children’s sudden violent death.

As usual, the conducted studies raised new questions. Half of the cases of suicide had made no previous suicide attempt. What is common and what is different about these cases and those with single or multiple previous attempts? One tenth of those who died by other forms of sudden violent death had also attempted suicide. What is common to these cases and cases of death by suicide? The qualitative studies showed that siblings and friends could be entrusted with secrets, which they kept to themselves. Systematic studies of their perspectives on the lives of those who died a sudden violent death can give us important clues for both prevention and intervention.

Psychological autopsy studies can give us still deeper and highly relevant knowledge, for example of similarities and differences in processes ending in suicide or in other forms of sudden violent death. However, we also need more expensive and labor-intensive longitudinal research, focusing on interactions between different factors across time and on subgroup differences, including gender, different age groups, privileged and underprivileged housing environment, etc. Focusing on feelings of alienation and thwarted belongingness among young people in socially vulnerable suburban areas can help us to understand what is common and what is specific in cases of lethal self-destructivity, cases of murderous destructivity, and cases of criminal activity. Another important area of further research is changing the focus from risk factors and destructive processes to protective factors and adequate methods for creating benign circles. For example, survivors of suicide attempts and accidents or overdose can be followed longitudinally in order to identify protective factors and mechanisms in cases of long-term survival.

## **6.8 Implications for Prevention and Health Care**

The qualitative studies in the suicide group demonstrated that several signs and preparations could be observed by parents, siblings and friends, as well as professionals, but were only recognized as such in retrospect. The preconceptions and beliefs among all parties involved could be decisive. Hindrances to recognizing such signs probably include the tendency to ignore and not want to know of devastating news, to minimize the dangers, and to allow oneself to be deceived. Thus, it can be important to include clues for recognizing such signs in educational and preventive programs addressing young people, parents of those at risk, and professionals. Furthermore, the qualitative studies revealed a lack of communication between parents, parents and professionals, parents and friends or siblings, and between professionals. Accordingly, measures that promote communication among all parties involved might have significant preventive effects and may improve interventions. Furthermore, addressing barriers to help for youths, their parents and friends, and healthcare professionals might be the most important ingredient in preventive programs. As concluded in Study I, the greatest challenge for the society is to take adequate action to assist those who never dare to seek professional help before dying by suicide or sudden violent death.

One conclusion from the quantitative studies was that not only suicide, but also other forms of sudden violent death in youths must be the subject of prevention and intervention programs. Given that the two groups share the same risk factors, adverse life experiences and coping strategies to some degree, large scale suicide prevention programs may contribute to reduced rates of other forms of sudden violent death in youths. A systematic literature review (Devenish, Berk, & Lewis, 2016) showed that depression prevention leads to a small but statistically



significant reduction in suicidality in adolescents. Preventing antisocial personality disorders (distinctive in the cases of other forms of sudden violent death) by focusing on adverse childhood experiences (Dube et al., 2001), as well as targeting thwarted belongingness and perceived burdensomeness (Ribeiro et al., 2013) are still unexplored areas.

Adolescent victimization is associated with both suicidal behavior and violent behavior, as shown in a study of public high school students in New York State (Cleary, 2000). A study based on the Karolinska Interpersonal Violence Scale (Jokinen et al., 2010) confirmed that childhood exposure to violence and adult violent behavior are important risk factors for committing suicide. Reducing different forms of interpersonal violence is one of the most crucial tasks for suicide and sudden violent death prevention. Furthermore, as argued in the first world report on violence and health (Krug et al., 2002), the public health sector has to be involved in violence prevention.

A recent systematic review and meta-analysis (Robinson et al., 2018) of 99 studies demonstrated the effectiveness of interventions performed in clinical, educational and community settings and aimed at prevention of suicidal behavior in young people. However, there was limited evidence that interventions could reduce the repetition of self-harm in clinical settings. There was also strong evidence of a small effect on suicidal ideation. The evidence for interventions delivered in educational or workplace settings was limited by the small number of methodologically rigorous studies. Many studies focused on interventions originally designed for adults rather than on youth-specific interventions. Still, a combination of school-based psycho-educational interventions and screening can be effective in reducing self-harm and suicidal ideation. The authors stress the need for adapting future interventions specifically for young people. One example of such empirically supported effective interventions, as demonstrated in a randomized controlled trial, is the Youth Aware of Mental Health Program (YAM), which target school pupils and has been demonstrated to significantly reduce incident suicide attempts and severe suicidal ideation at one-year follow-up (Wasserman et al., 2015; see also comments by Brent & Brown, 2015).

Prevention of suicide and other forms of sudden violent death in youths is not limited to a psychiatric assignment but has to be a part of social-welfare investments, including juvenile-delinquency prevention programs (Engqvist & Rydelius, 2006). A common ground for prevention of all forms of sudden violent death in youth could be to focus on adverse childhood experiences (Dube et al., 2001), as well as to target thwarted belongingness and perceived burdensomeness (Ribeiro et al., 2013). Ultimately, it is a matter of social investments aiming to counteract alienation, guard against unemployment and idleness, and heighten the educational



level among young people in socially vulnerable housing areas in order to prevent suicides, other forms of sudden violent death, murder, criminality, and fundamentalist radicalization.

According to Jacobsson (2018), the idea of committing suicide is inherent in human nature. It becomes dangerous first when the life situation is perceived as unresolvable and suicide is seen as the only “emergency exit.” It is exactly this idea that must be the primary focus of the treatment and prevention of suicidality. Jacobsson’s claim is that suicide prevention has to spread the message on a societal level “that there are other alternatives to suicide when life is experienced hopeless for different reasons and to make these alternatives visible and more easily available” (Jacobsson, 2018, p. 139).

All persons in distress, as well as the professionals they meet, create their own implicit, private theories on their difficulties and the potential remedy (Werbart & Levander, 2005). Establishing convergence in patients’ and therapists’ private theories on suicidality and its cure is a core issue in clinical encounters with suicidal patients (Østlie, Stänicke, Haavind, 2018). The clinician’s task is to balance empathic understanding of the patient’s ways of thinking with challenging them. The clinicians’ capacity to detect and work on their divergent private theories is decisive. Undetected and unaddressed divergences led to stalemate and resignation. Furthermore, for professionals meeting suicidal persons it is important to confront their own strong and frightening feelings about mortality, vulnerability and imperfection (Talseth, Jacobsson, & Norberg, 2000). This issue is relevant not only to psychotherapy and clinical settings in encounters with suicidal youths but also to family dynamics. When parents are separated or divorced (60% in the suicide group and the sudden violent group, as compared to 44% in the control group), the parent who is not living with the young person can be uninformed or not updated, and thus may not know important things about the child. One of the findings from the qualitative studies III and IV was the lack of communication among parents, parents and friends or siblings, as well as parents and professionals. This furthers the discrepancies between the perspectives of all involved protagonists. Thus, fostering communication between all parties involved might be decisive for the success of preventive measures and interventions. In professional meetings with suicidal people, one of the main tasks may be to take an interest in and arouse the young person’s curiosity about their own explanations for their dilemma. Furthermore, it may be helpful for the professionals to recognize and reflect on their own private theories about the young person’s difficulties and the potential solutions.



## 7 SVENSK SAMMANFATTNING – SWEDISH SUMMARY

Själv mord och annan plötslig död är de två vanligaste dödsorsakerna bland unga människor i hela världen. Både själv mord och annan plötslig våldsam död är vanligare bland män än bland kvinnor. Riskfaktorer, själv mordsbeteende och mönster i hjälpsökande skiljer sig mellan unga män och kvinnor. Idag finns det en omfattande forskning om riskfaktorer för själv mord hos ungdomar. Vi vet mycket mindre om riskfaktorer för andra former av onaturlig plötslig död.

**Syfte och frågeställningar:** Det övergripande syftet var att undersöka hypotesen att själv mord och annan plötslig våldsam död bland barn, ungdomar och unga vuxna kan ha liknande bakgrund. De två kvantitativa studierna syftade till (1) att jämföra riskfaktorer för själv mord och annan plötslig våldsam död med matchade levande kontrollfall; (2) att undersöka samband mellan livshändelser och vanliga coping strategier i dessa tre grupper av unga människor. Syftet med de två kvalitativa studierna var (3) att bygga en sammanfattande konceptuell modell av processer som leder till själv mord hos ungdomar, grundad i föräldrarnas perspektiv; (4) att jämföra suicidala processer bland pojkar och flickor.

**Material och metod:** I en prospektiv, longitudinell design jämfördes 63 konsekutiva fall av själv mord och 62 fall av annan plötslig våldsam död med 104 matchade kontrollfall av levande ungdomar. Data samlades in genom 196 intervjuer baserade på psykologisk obduktion med föräldrar och andra anhöriga till ungdomar som dog i själv mord eller annan plötslig våldsam död och 240 motsvarande intervjuer i kontrollgruppen. Intervjuerna innehöll DSM-IV-R kriterierna för relevanta psykiatriska diagnoser och mått på negativa barndomsupplevelser, påfrestande livshändelser och coping strategier. Statistiska analyser byggde på univariat och multivariat logistisk regression, faktoranalys, mediatoranalys och moderatoranalys. I kvalitativa studier användes grundad teori för att ge röst åt och skapa mening kring föräldrarnas upplevelser.

**Resultat:** (1) Den enda gemensamma riskfaktorn för själv mord och annan plötslig våldsam död var antal av påfrestande livshändelser under sista året. Utmärkande för fall av själv mord var någon form av missbruk och att ha varit intagen för vuxen psykiatrisk vård. Utmärkande för fall av annan plötslig våldsam död var sämre resultat i grundskolan, lägre utbildningsnivå och missbruk av psykofarmaka. (2) Fyra typer av coping strategier kunde identifieras. Utmärkande för fall av själv mord och av plötslig våldsam död var signifikant mindre av planerande problemlösning och mera av både flykt-undvikande och konfrontativ coping än i kontrollgruppen. Skillnaderna mellan grupperna medierades delvis av skillnader i negativa livshändelser tidigt i livet och under senaste året. Gemensamt för själv mordsgruppen och

plötslig våldsam död-gruppen var ett starkare samband mellan påfrestningar i livet under senaste året och konfrontativ coping än i kontrollgruppen. Utmärkande för plötslig våldsam död-gruppen var ett starkare samband mellan negativa barndoms-erfarenheter och flykt-undvikande. (3) Allianser, koalitioner och hemligheter i familjen samspelade med att den unga personen dölde sina problem och gömde sig ”bakom en mask”, medan professionella inte förstod nödläget. Flera samspelande faktorer skapade negativa återkopplingsspiraler. Den unga personen kunde inte finna någon väg ur sitt dilemma och sökte efter en ”nödutgång”. Olika signaler och förberedelser kunde iakttas av andra vid olika tidpunkter men blev igenkända som sådana först i efterhand. Vanligen sökte den unga personen och föräldrarna professionell hjälp men fick inte hjälp när det behövdes. (4) De unga personerna gömde sin skam bakom könsspecifika maskerna: clownen och lärkan, krigaren och den osynliga flickan, prinsen och prinsessan, och för flickor även mammas väninna och förtrogna, flickan som inte ville växa upp, och det vandrande helgonet. Både unga män och kvinnor kämpade med frågor kring deras könsidentitet. Fem sammanvävda stigar ledde till självmord: att vara jagad och förföljd, drogberoende, deprimerad, psykotisk, och för flickor även att ha en ätstörning.

**Slutsatser:** Självmordsgruppen verkade vara mer sårbara och utsatta för olika typer av påfrestningar, medan individerna i plötsligt våldsam död gruppen verkade vara mer utagerande och risktagande. Bättre förmåga att känna igen och ökad förståelse för samspelet mellan livshändelser, både i det avlägsna förflutna och i nuet, kan underlätta att identifiera unga personer med risk för självmord och andra former av plötslig våldsam död. Preventions- och interventionsprogram behöver rikta sig till båda riskgrupper. Framtida preventionsprogram behöver vara inriktade på hinder i kommunikation mellan alla berörda parter; ungdomar, föräldrar och samhällets stödorgan. Att förstå föräldrarnas tysta kunskap och använda denna kan bidra till bättre prevention och behandling.

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